

 Reflection[®] Suite
for the Enterprise

 Reflection[®] Suite
for TCP

Eigendom van
HACK42
Hackerspace Arnhem
www.hack42.nl



Getting Started

▲ W I N D O W S

Copyright

©1996 by Walker Richer & Quinn, Inc. All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language, in any form by any means, without the written permission of Walker Richer & Quinn, Inc.

Reflection Suite for TCP and Reflection Suite for the Enterprise *Getting Started*

Version 5.6

January 1996

Licenses and Trademarks

WRQ, Reflection, and Reflection Network Series are registered trademarks of Walker Richer & Quinn, Inc.

The ODI and NDIS drivers distributed with some of the products in the Reflection Network Series are the property of their respective network card manufacturers or developers and are distributed with their permission for your convenience.

The files LSL.COM, IPXODI.COM, and ROUTE.COM are provided by Novell, Inc. UNIX is a registered trademark of Novell, Inc. in the United States and other countries, licensed exclusively through X/Open Company, Ltd.

The files NETBIND.COM, PROTMAN.EXE, and PROTMAN.DOS are based on files distributed by 3Com for use in an NDIS environment.

3Com Corporation—3Com and TokenLink are registered trademarks. *AT&T Global Information Solutions Company*—WaveLAN is a registered trademark. *Adobe Systems, Inc.*—PostScript is a registered trademark. *Attachmate Corporation*—EXTRA! is a registered trademark. *Banyan Systems, Inc.*—Banyan and VINES are registered trademarks. *Cisco Systems, Inc.*—Cisco Systems is a trademark. *CompuServe Incorporated*—CompuServe is a registered trademark. *Digital Communication Associates, Inc.*—DCA is a registered trademark and IRMA is a trademark. *Digital Equipment Corporation*—DEC, DEMCA, DEPCA, LAT, PATHWORKS, VAX, VMS, VT52, VT100, VT101, VT102, VT220, VT320, and VT420 are trademarks. *Everex Systems, Inc.*—EVEREX and SPEEDLINK are registered trademarks. *Funk Software, Inc.*—WanderLink is a trademark. *Hayes Microcomputer Products, Inc.*—Hayes is a registered trademark and Smartmodem is a trademark. *Hewlett-Packard Company*—Hewlett-Packard, HP, NewWave, and OpenMail are registered trademarks; AdvanceMail, ALLBASE, HP 3000, HP LAN Manager, Information Access, NS3000, NS3000/XL, ThinLAN 3000, and ThinLAN 3000/XL are trademarks. *Intel Corporation*—Intel is a registered trademark and 386 is a trademark. *International Business Machines Corporation*—AS/400, AT, IBM, and PS/2 are registered trademarks and PCSupport/400 is a trademark. *Madge Networks Limited*—Madge and Ringnode are trademarks. *Microsoft Corporation*—Microsoft, MS-DOS, and Windows are registered trademarks and Windows 95 and Windows NT are trademarks. *Modular Software Systems*—BOOTCON is a trademark. *NetSoft*—NS/Router is a trademark. *Novell, Inc.*—NetWare and Novell are registered trademarks. IPX, LSL, ODI, and VLM are trademarks. UNIX is a registered trademark of Novell, Inc., in the United States and other countries, licensed exclusively through X/Open Company, Ltd. *Oracle Corporation*—SQL*Net is a registered trademark. *Quest Software, Inc.*—NFS/XL is a trademark. *Racal-Datcom, Inc.*—InterLan is a registered trademark. *Racal Electronics, PLC*—Racal is a registered trademark. *Shiva Corporation*—Shiva and LanRover are registered trademarks. *Sun Microsystems, Inc.*—PC-NFS is a registered trademark. *Sybase, Inc.*—Net-Library is a trademark. *Telebit Corporation*—NetBlazer is a trademark. *Thomas Conrad*—TC4045, TC5045-T, and TC5046-T are trademarks. *Wall Data, Inc.*—Rumba is a registered trademark. *X Consortium, Inc.*—X Window System is a trademark. *Xerox Corporation*—Ethernet is a trademark. *Xyplex, Inc.*—MAXserver is a registered trademark. *Zenith Data System Corporation*—Zenith Data Systems and Z-NOTE are registered trademarks.

Customer Service

Walker Richer & Quinn, Inc.
1500 Dexter Avenue North
Seattle WA 98109
USA
Tel: 206.217.7100
Fax: 206.217.0293

European Headquarters
Buitenhof 47
2513 AH Den Haag
The Netherlands
Tel: +31.70.375.11.00
Fax: +31.70.356.12.44

SE Asian Headquarters
WRQ Software Pte. Ltd.
9 Temasek Boulevard #28-03
Suntec City Tower 2
Singapore 038989
Tel: +65.336.3122
Fax: +65.336.5233

Technical Support in the USA

Technical Support: 206.217.7000
Technical Support Fax: 206.217.9492
Reflection Technical Notes (24-hour automated fax request line): 206.216.2680
Internet Address: support@wrq.com
CompuServe: GO WRQFORUM
Bulletin Board, 14400 baud (and lower) modems: 206.217.0145
Bulletin Board, modems up to 115200 bps: 206.217.0314
Bulletin Board Telnet Gateway: bbs.wrq.com
WRQ's World Wide Web site at <http://www.wrq.com>
Anonymous FTP Server: <ftp.wrq.com>

Technical Support Outside the USA

Please call your authorized Reflection distributor, or call WRQ for the name of the distributor nearest you.
European Headquarters Bulletin Board: +31.70.356.27.25

We welcome suggestions on how to improve our printed and online documentation.
Please send your comments to: docs@wrq.com.

This manual was printed in the U.S.A. on recycled paper with 10% post-consumer waste using soy-based inks.



TABLE OF CONTENTS

CHAPTER 1

Welcome to the Reflection Suites	1
What You Should Know	4
Where to Go from Here	4
Icons in the Reflection Suites	5
Starting Reflection	12
The Reflection Window	13
Running Multiple Sessions of Reflection	14
Saving Your Configuration	14
Getting Help	17

CHAPTER 2

Connecting to an IBM Mainframe or AS/400	29
Getting Connected	29
Transferring Files Between a PC and an IBM Mainframe	39
Transferring Files Between a PC and an AS/400	45

CHAPTER 3

Connecting to a DEC or UNIX Host	47
Getting Connected	47
Transferring Files Between a PC and a VMS or UNIX Host	53

CHAPTER 4

Connecting to a Network Using SLIP or PPP	57
Getting Connected	57
Adding a Serial Interface	62

CHAPTER 5

Using Network Applications and Utilities	65
Using the Reflection FTP Client	65
Using the Reflection NFS Client	71
Printing with LPR	82
Index	89



Welcome to the Reflection Suites

The Reflection Suite for TCP and Reflection Suite for the Enterprise are suites of connectivity software products that integrate TCP/IP networking services with access to VMS, UNIX, AS/400, and IBM mainframe computers. From a PC running Microsoft Windows, you can connect to a host, transfer files using the high-speed Internet-standard File Transfer Protocol (FTP), and perform many other network-related operations. An integrated Setup program makes it easy to install and configure the software on your PC.

The first chapter of this *Getting Started* guide provides basic information about the products in each suite. The chapters that follow explain how to establish host connections, and introduce some of the networking applications and utilities included with the suites.

The Reflection Suites include the following products:

- ▲ Reflection for IBM—for connecting to an IBM mainframe or AS/400
- ▲ Reflection 2 for Windows—for connecting to a VMS or UNIX host
- ▲ The TCP Connection—for TCP/IP networking services and utilities

The difference between the Reflection Suite for TCP and Reflection Suite for the Enterprise is that the TCP suite includes a Telnet-only version of Reflection for IBM. The Reflection Suite for the Enterprise provides several transport options in addition to Telnet for connecting to IBM mainframe and AS/400 hosts.

Reflection for IBM

Reflection for IBM lets you use your PC to connect to an IBM mainframe or AS/400 host. For IBM mainframe connections, your PC *emulates*, or acts like, a 3270 terminal or 3287 printer. For AS/400 connections, your PC emulates a 5250 terminal or 3812 printer.

The protocols you can use to connect to your IBM mainframe or AS/400 depend on the Reflection Suite you selected.

- ▲ The Reflection Suite for TCP provides connectivity using the Telnet protocol.
- ▲ The Reflection Suite for the Enterprise offers additional transport options for both IBM mainframe and AS/400 connections.

When you install the Reflection Suites, Reflection 3270 and Reflection for the AS/400 are installed together and share the same files, interface, and features. They look, and act, like a single product. In fact, you can start either product from a single icon, labeled “Reflection 3270 & AS/400,” in the Reflection Control Center. You can establish and maintain your host connection while running other Windows applications.

Both products feature a powerful scripting language—Reflection Basic—as well as a script recorder, host printing, file or data transfer, and HLLAPI support. You can customize the toolbar, terminal window colors, keyboard and mouse mapping, hotspots, and hotlists.

Reflection 2 for Windows

Reflection 2 for Windows lets you use your PC to connect to a VMS or UNIX host computer using the TCP Connection and the Telnet protocol (among other connection types).

With Reflection 2, you can communicate with a VMS or UNIX host computer just as if you were using a VT-series terminal, and maintain a host connection while running other Windows applications. Your PC can emulate a Digital Equipment Corporation VT420, VT320, VT220, VT102, VT101, VT100, or VT52 text terminal.

Reflection 2 includes its own version of Reflection Basic and is fully customizable.

The TCP Connection

The Reflection Network Series TCP Connection provides Microsoft Windows-based TCP/IP software. Its Windows Sockets interface supports Reflection products for Windows and other Windows Sockets-compatible applications. Along with host connections in Reflection, you can have simultaneous access to PC local area networks such as Novell NetWare, LAN Manager, or Windows for Workgroups.

The TCP Connection also includes a variety of utilities and services, including:

- ▲ Serial interface support for SLIP and PPP connections.
- ▲ An FTP Client, for quickly moving files between your PC and an FTP server using the high-speed Internet-standard File Transfer Protocol (FTP)
- ▲ LPR, a line printer requester that gives you access to printers attached to other machines on the network
- ▲ Ping, to help diagnose network problems.

Third-Party Applications

The Reflection Suites include several third-party applications that are documented separately. The Reflection Suites Setup program does not install these applications.

Internet Tools

Both Suites provide a set of Internet tools, including:

- ▲ An enhanced web browser
- ▲ A Windows-based news reader
- ▲ An electronic mail program

To install these applications, see the Courtesy Applications card included with the Reflection Suites documentation.

NS/Router Support

The Reflection Suite for the Enterprise includes NS/Router, a Windows-based program that performs the same functions as the PC Support/400 router. You can configure NS/Router to run over several different transport types. Because NS/Router provides a Windows DLL interface instead of a DOS TSR link, it conserves conventional memory resources. For information about installing and configuring NS/Router, see the *NS/Router User Guide*. The Reflection Suite for TCP does not include NS/Router.

What You Should Know

This guide assumes you know the basics of using Microsoft Windows: what *windows* are, how to *choose* menu commands and *select* text, how to *click* and *drag* with the mouse, and other standard Windows procedures. For help with any of these topics, see your Microsoft Windows documentation.

To establish connections using the products in the Reflection Suites, you must also know the settings the host computer requires. For example, you need to know the host computer's network address or name, and the settings the host requires for a terminal session.

Where to Go from Here

This *Getting Started* guide explains how to start the applications and utilities included in the Reflection Suites, and briefly describes the features you are most likely to use.

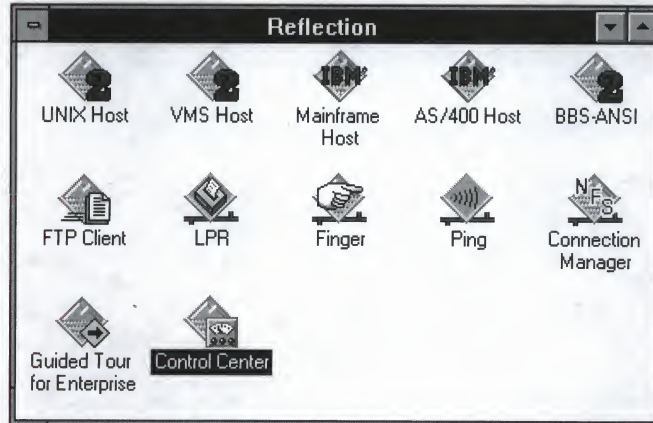
For a quick online overview of the Reflection Suites, take the Reflection Suite guided tour. Open the Reflection group in Windows Program Manager and find the icon labeled Guided Tour for Enterprise or Guided Tour for TCP, depending on the suite you have installed. Double-click the icon to start the tour. (If the Reflection group does not include a Guided Tour icon, it may not have been selected as an option when the Reflection Suite was installed.)

If you need to know more about using or configuring a particular application, the Reflection Suites include complete documentation for all of the products in the suite. To find out where to look for more information about a product, see "Guide to the Reflection Suites Documentation Set" on page 23.

If you need to install and configure the Reflection Suites software, see the Reflection Suite for TCP and Reflection Suite for the Enterprise *Installation Guide*.

Icons in the Reflection Suites

When you have installed the Reflection Suites, you will have a Program Manager group called "Reflection." When you open the Reflection group, you will see icons for some of the applications and accessories included with the Reflection Suites:



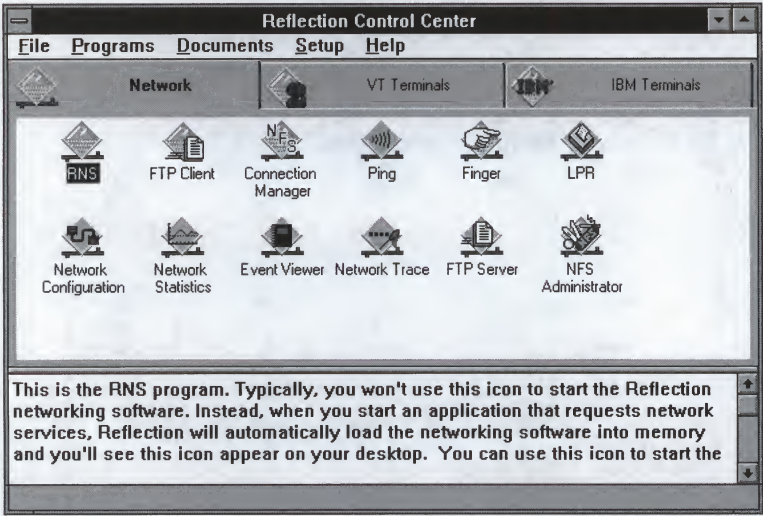
If you did not install all of the Reflection products, you will only have icons for the products you chose to install.

The icons in the Reflection group are the ones you will probably use most often. To use the other applications and utilities in the suite, open the Reflection Control Center.

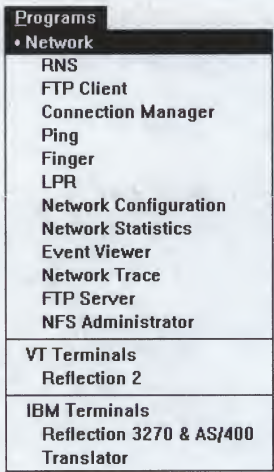
Using the Control Center

The Reflection Control Center is a utility that organizes your Reflection Suite icons, and gives you convenient access to all of the suite applications. It also provides a brief description of each application.

To use the Control Center, open the Reflection group in Program Manager and double-click the Control Center icon.



The Control Center has a separate tab for each installed Reflection product. Click a tab to display the icons for that product. You can also select a tab from the Control Center Programs menu:



This menu lists all of the installed Reflection Suite programs and utilities, grouped by product. Click Network, VT Terminals, or IBM Terminals to display the corresponding Control Center tab.

For convenience, some of the icons in the Control Center duplicate icons in the Program Manager group.

When you click an icon in the Control Center, the lower part of the window displays a brief description of the application. To make the text window larger or smaller, place your cursor over the bar that divides the upper and lower parts of the window until your cursor changes to a double bar with arrows. You can then click and drag the divider bar to the position you wish.

If you install additional Reflection products, they are added to the Control Center automatically. If you remove Reflection products from your system, they no longer appear in the Control Center. You can't add or remove icons from the Control Center, or change the properties of existing icons.

Starting a Program from the Control Center

There are three ways to start a program from the Reflection Control Center:

- ▲ Double-click the program's icon, just as you would from the Reflection group in Program Manager.
- ▲ Click the program's icon, open the File menu and click Run.
- ▲ Open the Programs menu on the Control Center menu bar. This menu lists all of the programs and utilities in the Reflection Suite, grouped by product. Click a program or utility name on the menu to start the program.

Consulting Online Documentation from the Control Center

The Documents menu on the Control Center menu bar lists README files and other documentation available for the installed Reflection products. Click a menu option to open the corresponding file.

Running Setup from the Control Center

If you are running the Reflection Suite from a server, there is a Setup menu on the Control Center menu bar. This menu option runs the Reflection Suite Setup program.

Note: You do not need to run Setup to configure your Reflection networking software. If you need to modify the settings you specified when you installed the software, use the Network Configuration utility or ask your system administrator for more information. ▲

There is no Setup menu if you are running the Reflection Suite software from your PC.

Closing the Control Center

To close the Reflection Control Center, open the File menu and click Exit.

For more information about the Reflection Control Center, see the Control Center online help.

Reflection Suite Icons

The next section briefly describes the icons that Setup installs in Windows Program Manager and the Reflection Control Center when you install a Reflection Suite. Some of the applications and utilities are described further in other parts of this guide; for detailed information about any of the products in the suite, see the individual product documentation.

Program Manager Reflection Group



Reflection 2 for Windows is the application you use to connect to VMS and UNIX hosts as a Digital VT-series terminal. Use the Reflection 2 UNIX Host icon to connect to a UNIX host. Reflection 2 is introduced on page 47.



Use the Reflection 2 VMS Host icon to connect to a VAX host as a Digital VT-series terminal. Reflection 2 is introduced on page 47.



Use the Reflection 2 BBS-ANSI icon to establish a modem connection to a bulletin board. Reflection 2 is introduced on page 47.



Use the IBM Mainframe Host icon to start Reflection 3270, the application you use to connect to an IBM mainframe. Reflection 3270 is introduced on page 29.



Use the IBM AS/400 Host icon to start Reflection for the AS/400, the application you use to connect to an IBM AS/400. Reflection for the AS/400 is introduced on page 29.



Reflection FTP Client is a file transfer application you can use to transfer files using the high-speed Internet-standard File Transfer Protocol (FTP). It provides both drag-and-drop controls and a traditional FTP command line interface. This icon also appears in the Control Center Network group. FTP Client is described on page 65.



The Connection Manager is an NFS client application that provides transparent access to shared files on an NFS drive. You can connect to remote hosts or servers and access them as though they were local drives on your PC. You can also use NFS to associate remote host printers with your PC printer ports. This icon also appears in the Control Center Network group. The Connection Manager is described on page 71.



Ping is a network diagnostic tool you can use to verify the operation of another node on the network. This icon also appears in the Control Center Network group.



Finger

Finger is a utility that provides information about users on a remote host. The Finger Client requests information from a host running a Finger Server. The Reflection Suites also include a Finger Server, which you can configure using the Network Configuration utility. This icon also appears in the Control Center Network group.



LPR

LPR is a line printer requester you can use to send print jobs to printers attached to other nodes on the network. This icon also appears in the Control Center Network group. LPR is introduced on page 82.



Control Center

The Reflection Suites also include support for LPD, which allows you to configure a printer attached to your PC as a network printer. Use the Network Configuration utility to configure LPD; see the *Reflection Network Series System Administrator Guide* for more information.

The Reflection Control Center is a utility that organizes your Reflection Suite icons, and gives you convenient access to all of the suite applications. It also provides a brief description of each application. To use the Control Center, see page 5.



Guided Tour

The Guided Tour provides an overview of the Reflection Suite for the Enterprise or Reflection Suite for TCP, and introduces some of the features in the Reflection products.

Control Center VT Terminals Tab



Reflection 2

Reflection 2 for Windows is the application you use to connect to VMS and UNIX hosts as a Digital VT-series terminal. This icon starts Reflection 2 in its default configuration. Reflection 2 is introduced on page 47.



SetCount

SetCount is a utility you can use to limit the number of users that can run Reflection from a server at the same time. While SetCount is running, it monitors the number of users and can determine the maximum number of concurrent users during that time period. The single-user Reflection Suites do not include this utility.

Control Center IBM Terminals Tab



Use the Reflection 3270 & AS/400 icon to start Reflection for IBM, the application you use to connect to an IBM mainframe or AS/400 host. Reflection for IBM is introduced on page 29.



SetCount is a utility you can use to limit the number of users that can run Reflection from a server at the same time. While SetCount is running, it monitors the number of users and can determine the maximum number of concurrent users during that time period. The single-user Reflection Suites do not include this utility.



The Translator is a utility that updates settings files and scripts from earlier versions of Reflection for IBM.

Control Center Network Tab

The Network tab in the Control Center duplicates the FTP Client, Connection Manager, Ping, Finger, and LPR icons in the Program Manager Reflection group, and displays icons for the following applications and utilities:



Typically, you won't use this icon to start the Reflection networking software. Instead, when you start an application that requests network services, Reflection automatically loads the networking software into memory and displays this icon on your desktop.



Network Configuration is an application that lets you modify settings you specified when you ran Setup. You can also configure additional settings that are not available through the Setup program.



Network Statistics displays statistics for the Reflection Network Series protocols.



Event Viewer

Event Viewer displays a log of Reflection Network Series events.



Network Trace

Network Trace is a utility that captures a network trace to a binary file. The trace file can then be used to help troubleshoot network problems.



FTP Server

FTP Server lets you make your PC files accessible to others on the network via FTP (File Transfer Protocol). It includes security and control support, activity logging, and other management features.



NFS
Administrator

The NFS Administrator utility displays information about the current NFS remote drives, remote file directories, print queues you can connect to on various hosts, and the NFS server daemons running on your hosts. You can also use this utility to change permissions for files and directories.

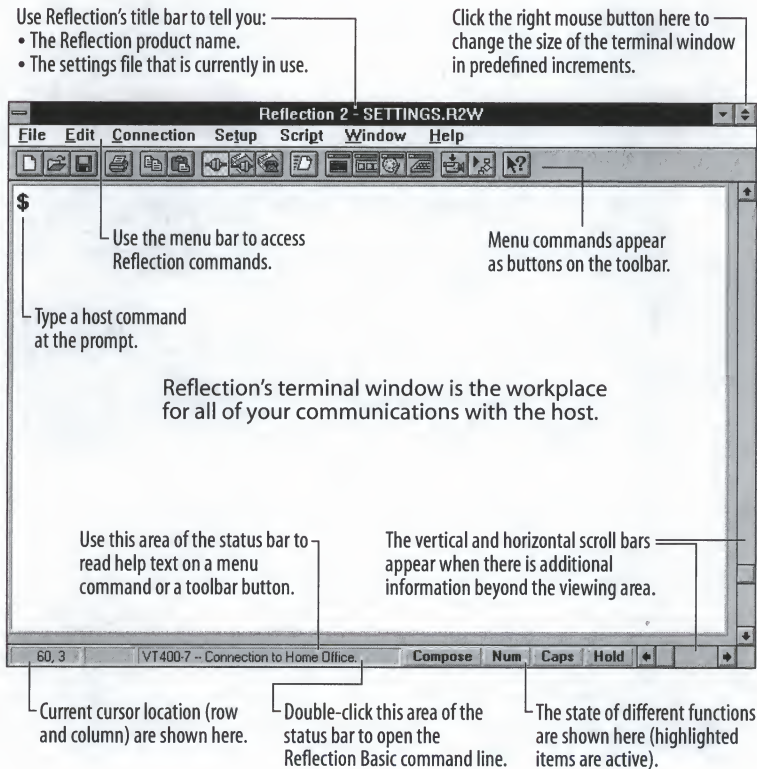
Starting Reflection

To use Reflection to connect to a host, double-click one of the Reflection 2 or Reflection for IBM icons in Windows Program Manager or the Reflection Control Center.

You'll see the Reflection mountain startup screen for a few seconds, and then the Reflection screen.

The Reflection Window

When you use Reflection 2 or Reflection for IBM, you'll be working in a window similar to this:



Some of the details may differ depending on the product you are using and the host you are connected to—for example, you may see different options on the menus, or the host prompt may be different—but the Reflection window generally works the same way.

This is where you interact with the host computer, just as though you were working at a dedicated terminal. The host can position the cursor anywhere in the window and can write, erase, and alter characters at any cursor position. Characters are written to the display at the cursor position.

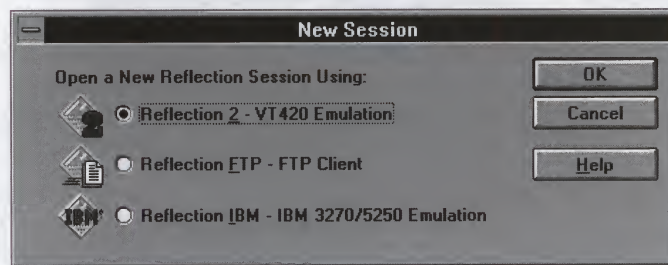
Running Multiple Sessions of Reflection

You can run multiple sessions of a single Reflection product, run different Reflection products simultaneously, or both.

To start another session from Reflection 2:

1. On the File menu, click New Session.

If you have other Reflection products installed, this command opens the New Session dialog box. For example, it might look like this:



2. Select the Reflection product you want to start.
3. Click OK.

The Reflection product you selected opens with an “Untitled” terminal window.

In Reflection for IBM, New Session opens a new session of Reflection for IBM. To start a session of another Reflection product, double-click the program’s icon in Program Manager or the Reflection Control Center.

Saving Your Configuration

In Reflection 2 and Reflection for IBM, a settings file records information about your current Reflection configuration and connection. By saving this information in a settings file, you can duplicate a Reflection session at a later time, without having to re-enter your connection information or re-set any customized options. You can use a settings file to restore your working environment when you start Reflection, even if you do not automatically connect to a host. Or, you can configure Reflection to automatically open a settings file and establish a host connection when you start Reflection.

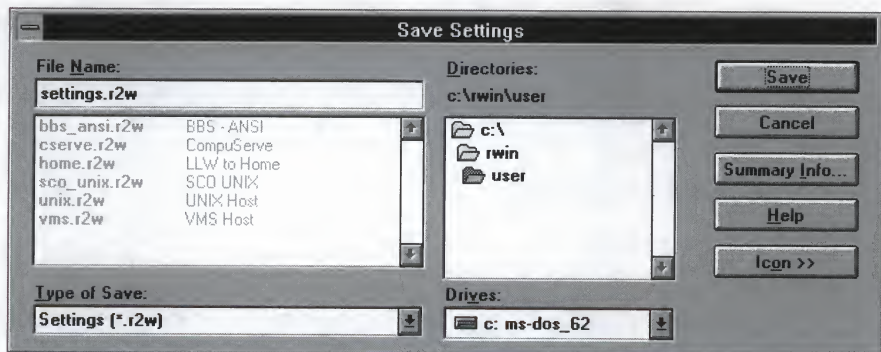
If you change your settings, Reflection 2 prompts you to save the changes in the current settings file before you exit Reflection. You can see the settings filename in the title bar of the terminal window. You can set Reflection to automatically save your current connection and configuration information to a settings file when you exit.

Creating a Settings File

When you create a settings file, you can save all of the configuration options you have set, including the host connection information. You can open the new settings file and modify it at any time.

To create a settings file:

1. Start Reflection and set the connection options you want. See the Reflection for IBM *User Guide*, the Reflection 1, 2, and 4 *User Guide*, or online help for configuration and connection information.
2. On the File menu click Save As to open the Save Settings dialog box:

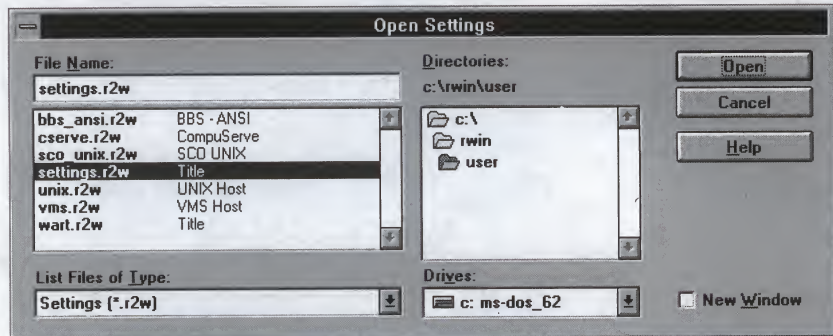


3. Type a name for the settings file in the File Name text box. Reflection will automatically append an appropriate file extension: .RSF for a Reflection for IBM settings file, or .R2W for a Reflection 2 settings file. See the Reflection for IBM *User Guide* or the Reflection 1, 2, and 4 *User Guide* for more detailed information about Reflection settings files.
4. Click Save.

Opening a Settings File

To load the settings and connection information in an existing settings file:

1. On the File menu, click Open to display the Open Settings dialog box:



2. Select the name of the settings file you want to open.
3. Click Open.

Reflection's title bar updates to show you the new settings file name.

Exiting Reflection

On the File menu click Exit to exit Reflection. Reflection disconnects from the active host connection and closes.

If you have changed any Reflection 2 settings, a message box appears asking whether you want to save these changes to a settings file.

Getting Help

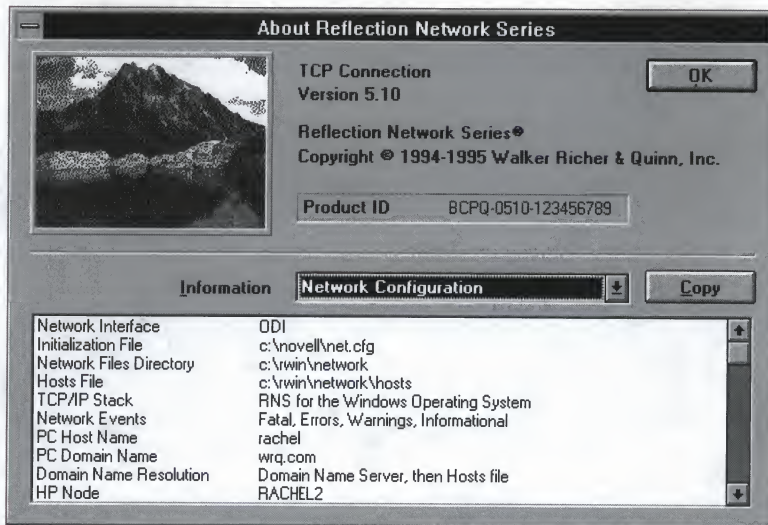
There are several ways to get help with installing, configuring, or using the products in the Reflection Suites.

About Your Reflection Configuration

To see detailed information about how Reflection for IBM, Reflection 2, or the Reflection Network Series is set up on your machine, open the About... box:

- ▲ From Reflection for IBM or Reflection 2, click About Reflection... on the Help menu.
- ▲ For information about the Reflection Network Series, click the RNS icon on your desktop to open the icon menu, and click About.

You'll see a dialog similar to this one:



The upper half of the dialog box shows the name of the Reflection product, the version you are using, and the product ID—if you call WRQ technical support, you will need to provide this number.

The Information list contains several configuration categories from which to choose. The items in the list will depend on the Reflection product you are using.

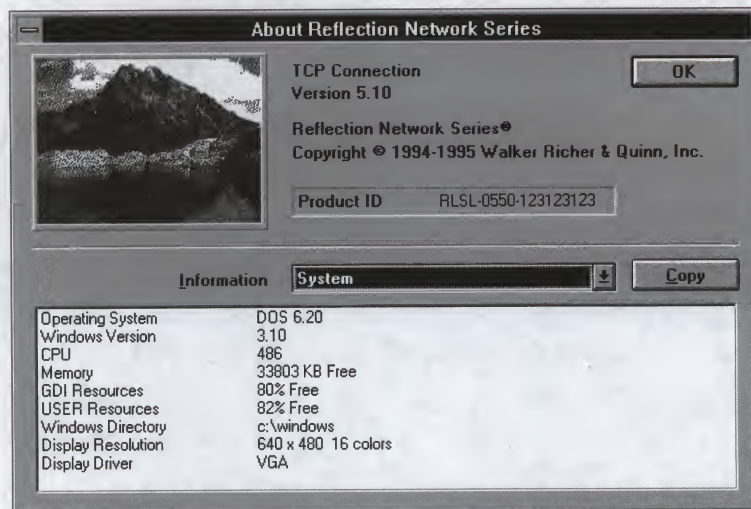
A useful feature of the About box is the Copy button. Click this button to send the information from this dialog box to your Windows Clipboard. You can then paste this information into an application and print it. This is useful information for your system administrator or for WRQ technical support.

Network Configuration

When you first select About RNS, you'll see a summary of network configuration items. For example, the first line in the list tells you what your network interface is—NDIS, ODI, or serial. This choice is only available from the About Reflection Network Series box; it is not one of the choices on the Reflection for IBM or Reflection 2 Information lists.

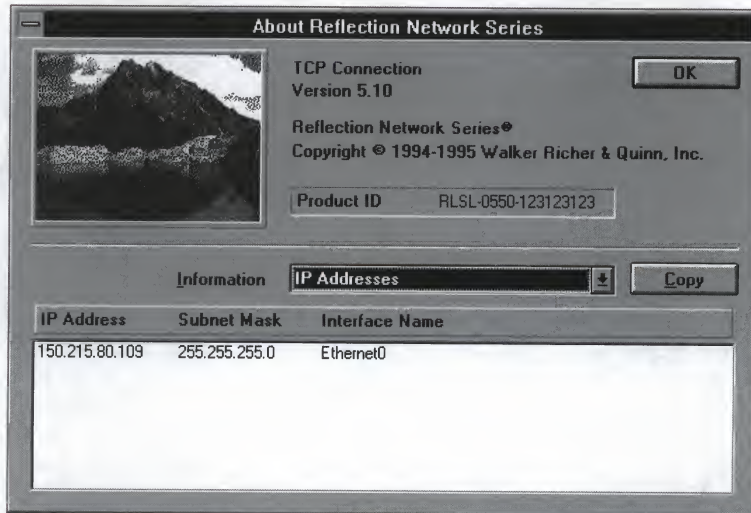
System Information

Select System from the Information list to see general information about your machine and your Windows environment. This is a good place to look for such things as memory usage if you have performance problems.



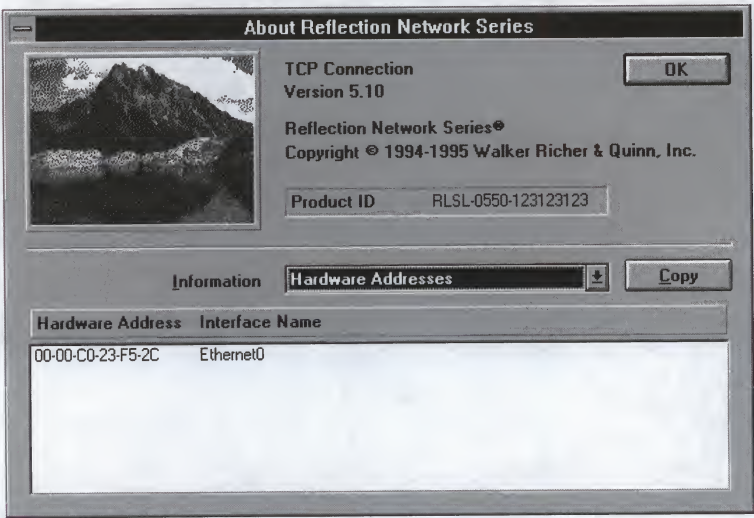
IP Addresses

Select IP Addresses from the Reflection Network Series Information list to see the IP address, subnet mask, and interface name for your machine. This choice is only available from the About Reflection Network Series box; it is not one of the choices on the Reflection for IBM or Reflection 2 Information lists.



Hardware Addresses

Select Hardware Addresses from the Reflection Network Series Information list to see your network card's hardware address. This choice is only available from the About Reflection Network Series box; it is not one of the choices on the Reflection for IBM or Reflection 2 Information lists.



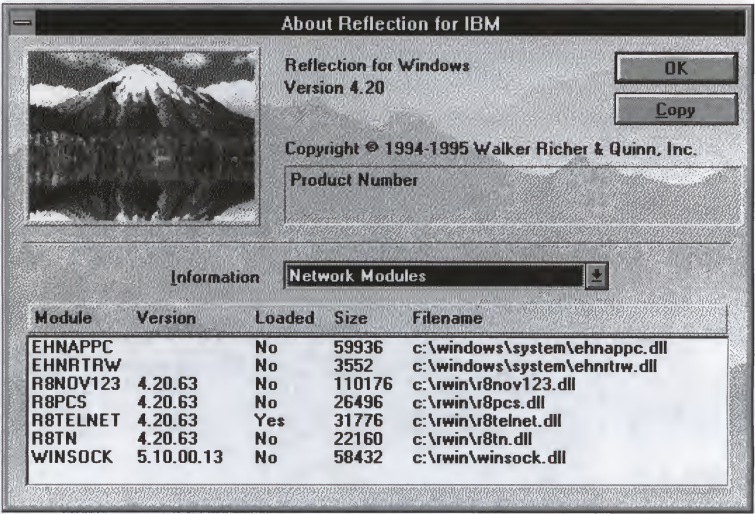
Modules

Select Modules from the Information list to see the name, version number, file size, and location of each module in the Reflection product you are using, and whether it's currently in use. If you have problems with a Reflection product, you can use this information to verify the version number of the modules you are running. You can also check the location of each module running on your PC—this is helpful in determining whether you are running a server version of the software.



Network Modules

Select Network Modules from the Reflection for IBM or Reflection 2 Information list to see the name, version number, file size, and status of the Reflection Network Series modules.



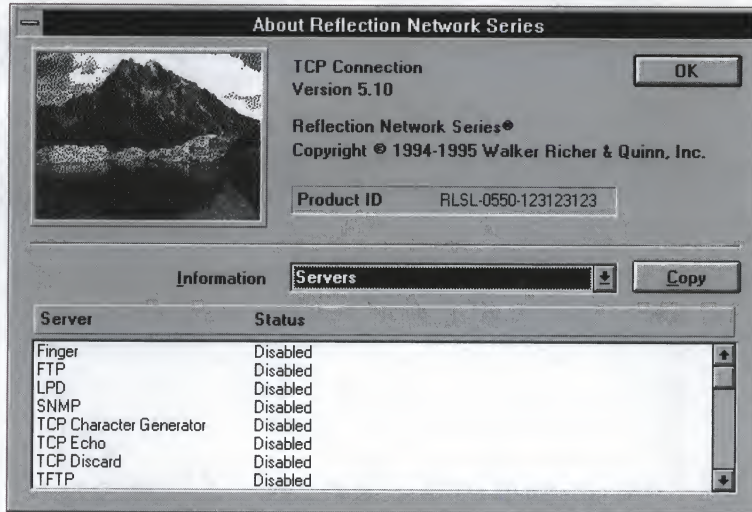
If you don't have the Reflection Network Series installed, but you are running over a Windows Sockets compliant protocol stack, Network Modules displays information about the stack, and either Telnet or NS/VT if it detects these modules.

If you don't have Reflection Network Series or another Windows Sockets compliant stack installed, this option does not appear in the Information list.

The Reflection Network Series Information list doesn't have a network modules option. The Reflection Network Series About box displays information about RNS modules when you choose Modules from the Information list.

Servers

Select Servers from the Reflection Network Series Information list to see if a particular Reflection Network Series server, such as FTP Server, is running. This choice is only available from the About Reflection Network Series box; it is not one of the choices on the Reflection for IBM or Reflection 2 information lists.



Guide to the Reflection Suites Documentation Set

In addition to the *Installation Guide* and *Getting Started* guide, which give an overview of the Reflection Suites, the Reflection Suite packages include detailed documentation for each of the products in the suite. The following summary will help you find what you need:

- ▲ The Reflection Suite for TCP and Reflection Suite for the Enterprise *Installation Guide* outlines the hardware and software requirements for the Reflection Suites, and will help you run the Setup program that installs the Reflection Suites applications and utilities.
- ▲ This manual, the Reflection Suite for TCP and Reflection Suite for the Enterprise *Getting Started* guide, is for the new Reflection user. It introduces the applications and utilities in the Reflection Suites, and briefly explains how to use the features that you will probably need most often.

- ▲ The *Reflection 3270 User Guide* tells you how to use your PC to connect to an IBM mainframe. It describes connection options, transports, and customization options in more detail than does this *Getting Started* guide.
- ▲ The *Reflection for the AS/400 User Guide* tells you how to use your PC to connect to an AS/400. It goes into more detail about connection options, transports, and customization options than does this *Getting Started* guide.
- ▲ The *Reflection for IBM System Administrator Guide* covers troubleshooting, error messages, HLLAPI, Reflection's system administration utilities, and Reflection Basic.
- ▲ The *NS/Router User Guide* explains how to install, configure, and use NS/Router. This guide is not included with the Reflection Suite for TCP.
- ▲ The *Reflection 1, 2, and 4 User Guide* tells you how to use your PC as a VT-series terminal emulator. It provides more information about connection options, running under other platforms, customization options, advanced features, and troubleshooting than is included in this *Getting Started* guide.
- ▲ The *Reflection 1, 2, and 4 System Administrator Guide* is designed for the person who must set up and control the environment in which a group of Reflection users work. It describes how to install, update, and maintain multiple copies of Reflection products, and how to restrict user access to Reflection features.
- ▲ The *Reflection Basic User Guide* introduces the Basic programming language that is part of Reflection 2. It will help you get started writing Reflection Basic scripts. (For information about Reflection Basic for IBM, see the *Reflection for IBM System Administrator Guide*.)
- ▲ The *Reflection Network Series System Administrator Guide* is a general reference for network applications and utilities. It includes TCP/IP background information, and addresses networking considerations.
- ▲ The Courtesy Applications card describes how to install and run the enhanced web browser, newsreader, and electronic mail application included with the Reflection Suites.

In addition to the manuals, each application in the Reflection Suites has a complete online help system.

Technical Support Options

WRQ strives to provide the best possible technical support for all of its products. To receive technical support, you must be a registered user of WRQ products. Complete the warranty card and send it to our U.S.A. or European post office box.

When you have a problem that you cannot resolve with our online help and manuals, if you are outside of the U.S.A., contact your authorized Reflection distributor. If you are in the U.S.A., use one or more of the following technical support options:

- ▲ Request Reflection Technical Notes through a 24-hour automated fax request line at 206.216.2680.
- ▲ Join the WRQ Reflection Forum on CompuServe. Enter GO WRQFORUM.
- ▲ On the Microsoft Network (MSN), go to REFLECTION.
- ▲ In the U.S.A., use your modem to dial into WRQ's bulletin board service. There are six dial-in lines, three of which support higher speed modems:
 - Call 206.217.0145 if you have a 14400 V.32bis modem. This number can access all six dial-in lines.
 - Call 206.217.0314 if you have a 28800 V.34/V.FC modem. Three dial-in lines support modem speeds of up to 115200 bps.

In Europe, use your modem to dial into WRQ's satellite bulletin board service at +31.70.356.27.25. There is one dial-in line at up to 9,600 bps.

- ▲ On the Internet:
 - Visit WRQ's World Wide Web site at <http://www.wrq.com>. The Technical Support area contains technical notes, tutorials, access to other WRQ online services, and links to other technical resources available on the Internet.
 - Connect to the WRQ BBS over the Internet at bbs.wrq.com. Use the Telnet protocol.
 - Connect to the WRQ anonymous FTP Server, which shares files with WRQ's bulletin board system:

Server name: [ftp.wrq.com](ftp://ftp.wrq.com)
User name: anonymous
Password: <your e-mail address>
 - Leave an e-mail message for WRQ technical support at support@wrq.com.

Technical Support by Telephone

If you prefer to speak with a WRQ support technician, call the technical support team. When you call:

- ▲ Be seated at your computer. If you cannot be at your computer, have your AUTOEXEC.BAT, CONFIG.SYS, NET.CFG or PROTOCOL.INI, WIN.INI, and SYSTEM.INI files on hand.
- ▲ Have your product serial number ready. On the Help menu click About Reflection to display your serial number.
- ▲ Be prepared to answer questions about your hardware and software. What kind of processor does your PC have? What version of DOS or Windows are you using?
- ▲ Know how you are connected to the host. Are you using a direct serial connection or a modem? What baud rate and parity are you using? Are you connecting over a network? What kind of network are you on?
- ▲ Know what kind of host computer you are using, which operating system your host is running, and the name of the host application in which the problem occurs.

For Telephone Support in the U.S.A.

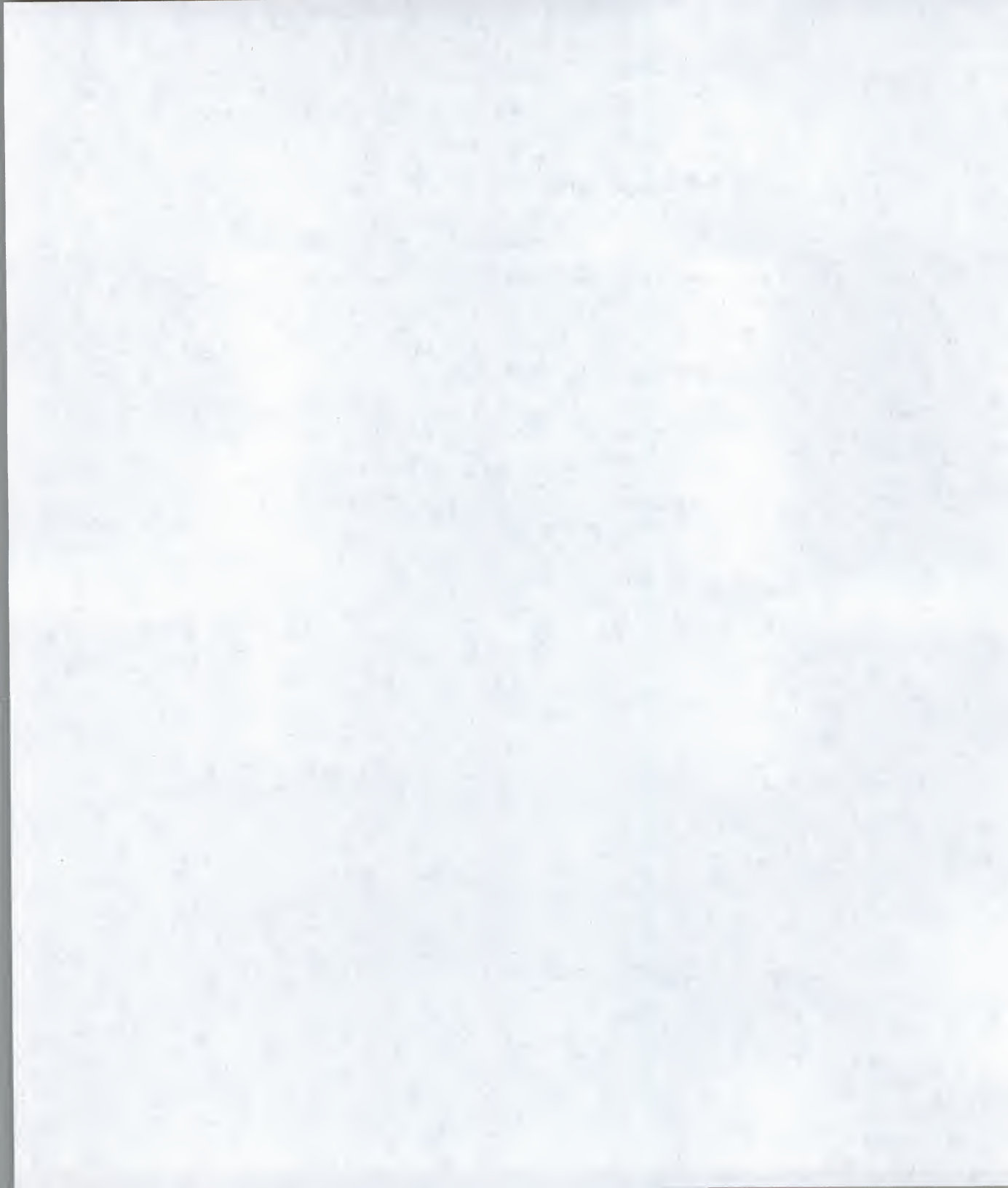
In the U.S.A., telephone support hours are from 5 A.M. to 5 P.M. Pacific time, Monday through Friday. Call WRQ technical support at 206.217.7000.

If you prefer to send a fax describing the problem, the technical support fax number is 206.217.9492.

For Telephone Support Outside the U.S.A.

For support outside the U.S.A., contact your authorized Reflection distributor. For the name of the distributor nearest you, call WRQ for information:

- ▲ In Europe, call WRQ at +31.70.375.11.00 (The Netherlands)
- ▲ In other countries, call WRQ at 206.217.7100 (U.S.A.) and ask for the International Department



Connecting to an IBM Mainframe or AS/400

The Reflection Suites combine two software products—Reflection 3270 and Reflection for the AS/400—that connect your PC to an IBM host computer. You can use your PC to:

- ▲ Connect to an IBM mainframe host as a 3270 terminal or 3287 printer. The Reflection Suite for TCP includes the Telnet and Telnet Extended transport options. With the Reflection Suite for the Enterprise, you can use Microsoft SNA Server, NetWare SAA, Telnet, or Telnet Extended to connect to your host.
- ▲ Connect to an AS/400 as a 5250 terminal or 3812 printer. The Reflection Suite for TCP includes the Telnet transport option. With the Reflection Suite for the Enterprise, you can use NS/Router, NetWare SAA, PC Support/400 (also known as Client Access), or Telnet to connect to your host.

This section briefly describes how to connect to a host using Telnet or other transports, and how to transfer files.

For a more detailed description of these procedures, and for information about customizing Reflection, see the *Reflection 3270 User Guide* or the *Reflection for the AS/400 User Guide*. To find out about troubleshooting, error messages, system administrator utilities, and Reflection Basic, see the *Reflection for IBM System Administrator Guide*.

Before you start Reflection, make sure the necessary network software is installed on your PC, and that it is correctly configured. See the documentation for your network software for more information. If Reflection for IBM has not been installed on your PC, see the *Reflection Suites Installation Guide*.

Getting Connected

The procedure you use to connect to an IBM host computer depends on the kind of host you are connecting to, and the type of transport you are using.

Demonstration Connections

Reflection for IBM includes a demonstration mode that lets you examine Reflection's features without establishing a host connection. You can use this feature to simulate a connection to either an AS/400 or IBM mainframe. To use Reflection in demonstration mode, see page 32.

Telnet Connections

You can use the Telnet transport to connect to either an AS/400 system or an IBM mainframe, and the procedure is similar for either host. Telnet uses Windows Sockets compliant TCP/IP networking software, available either from WRQ or from a third-party source. Telnet does not support the AS/400 data transfer feature—use FTP to transfer files instead (see the online help with the Reflection FTP Client program). To connect using Telnet, see page 33.

When you use the Telnet transport, you can also use a serial interface to make a SLIP or PPP connection to your host through a remote access server on your network. See Chapter 4, "Connecting to a Network Using SLIP or PPP."

Connecting to an IBM Mainframe

With the Reflection Suite for TCP, you can use Telnet or Telnet Extended to connect to an IBM mainframe. The Reflection Suite for the Enterprise provides additional transport options you can use to connect to an IBM mainframe host. In addition to Telnet and Telnet Extended, you can establish connections using Microsoft SNA Server and NetWare SAA.

- ▲ **Telnet Extended:** Telnet Extended allows you to establish a TCP/IP connection to a host through a Telnet gateway that implements RFC 1647. Such gateways, like the Apertus DataCenter Hub gateway, support the TN3270E protocol. The TN3270E protocol provides standard support for the Attention key, the SysReq key, and SNA response handling. It allows you to specify the connection device name (or LU name), and lets you print mainframe jobs to a local or network printer. To connect to an IBM host using Telnet Extended, see page 34.

- ▲ **Microsoft SNA Server:** Choosing Microsoft SNA Server as your transport type allows you to connect to your mainframe through a Microsoft SNA Server gateway. To use this transport, you must have access to such a gateway. You must also have Microsoft SNA Server Client software installed on your PC, and be using one of the following networking protocols: NetWare (IPX/SPX), TCP/IP, Microsoft networking, or Banyan VINES. To connect to an IBM mainframe host using Microsoft SNA Server, see page 35.
- ▲ **NetWare SAA:** Choosing NetWare SAA as your transport type allows you to connect to your IBM mainframe through a NetWare SAA gateway. To use this transport, you must have access to such a gateway. You must also have Novell NetWare workstation client software or Windows Sockets compliant TCP/IP networking software installed on your PC. To connect to an IBM mainframe host using NetWare SAA, see page 37.

Connecting to an AS/400

The Reflection Suite for the Enterprise supports additional transport options you can use to connect to an AS/400. In addition to Telnet, you can establish connections using NS/Router, NetWare SAA, or PC Support/400 (also known as Client Access).

- ▲ **NS/Router:** NS/Router is a Windows-based program for connecting PCs to AS/400s. It performs the same function as the router in IBM's PC Support/400. NS/Router is included with the Reflection Suite for the Enterprise.
- ▲ **NetWare SAA:** The NetWare SAA router is a Novell product that supports 5250 terminal and printer connections.
- ▲ **PC Support/400:** PC Support/400 is IBM's communications product for connecting PCs to AS/400s. PC Support is not a WRQ product; it is available from IBM.
- ▲ **Client Access:** IBM's Client Access product is an updated version of PC Support and is supported by Reflection. Wherever you see the term "PC Support" in Reflection's interface, it applies to Client Access as well. For example, to establish a connection using Client Access, click PC Support in the Session Setup dialog box.

To connect to an AS/400 using NS/Router, NetWare SAA, or PC Support, see page 38.

See the Reflection for the AS/400 *User Guide* or the documentation supplied with your network software for more information on these transports.

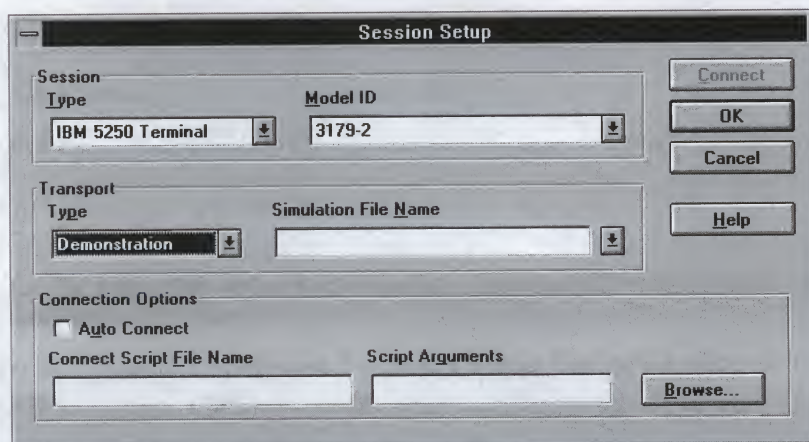
Simulating a Connection to an IBM Mainframe or AS/400

The demonstration transport option provides a way to demonstrate Reflection's features without establishing a host connection. You can use Reflection's demonstration mode to simulate a connection to an IBM mainframe or AS/400 host. This is useful for training or practice.

To simulate a host connection:

1. Open the Connection menu and click Session Setup to open the Session Setup dialog box.
2. Select *IBM 5250 Terminal* or *IBM 3270 Terminal* as your Session Type. (You can't simulate 5250 or 3270 printer sessions.)
3. Set the Transport Type to *Demonstration*.

The Session Setup dialog box changes to look like this:



4. Select the one available entry in the Simulation File Name list box. If you are simulating an AS/400 connection, this will be a path to the Reflection directory followed by the file name RIBM5250.SIM. For 3270 simulation the file name is RIBM3270.SIM.

- Click Connect.

Reflection now behaves as though there were a host connection. The Session Setup dialog box closes; in a few seconds you will see a host logon screen.

- To log on to the demonstration host, press **Enter** (you don't need to enter a user name or password).

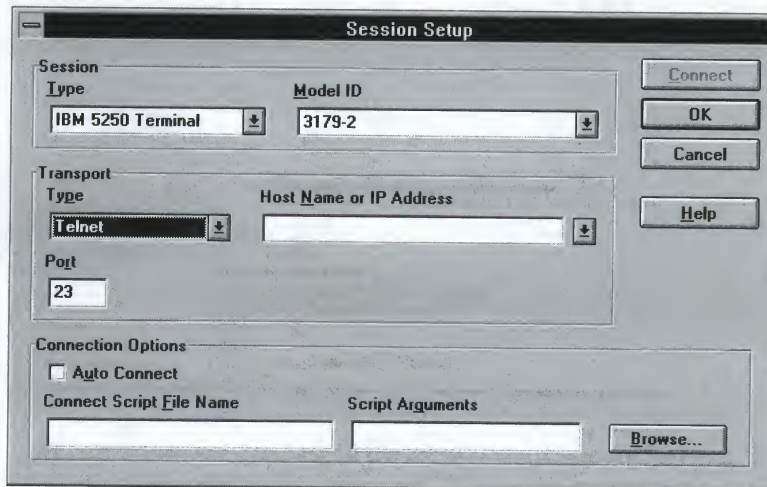
You can use the following commands to simulate working with a host application:

Demonstration Connection	Valid Commands
AS/400 Host	WRKSYSSTS, WRKACTJOB, KAYAK, 90
IBM Mainframe	ISPF, PROFS, KAYAK, LOGOFF

Connecting Using Telnet

To connect to an AS/400 or IBM mainframe over Telnet:

- Open the Connection menu and click Session Setup. The Session Setup dialog box appears:



The Session Setup dialog box is shown with the following fields and buttons:

- Session Type:** IBM 5250 Terminal
- Model ID:** 3179-2
- Transport Type:** Telnet
- Host Name or IP Address:** (empty field)
- Port:** 23
- Connection Options:**
 - ☐ Auto Connect
 - Connect Script File Name:** (empty field)
 - Script Arguments:** (empty field)

Buttons on the right side of the dialog box include: Connect, OK, Cancel, Help, and a Browse... button next to the Script Arguments field.

2. Select a Session Type.
 - ▲ To connect to an AS/400, select *IBM 5250 Terminal*.
 - ▲ To connect to an IBM mainframe host, select *IBM 3270 Terminal* or *IBM 3270 Printer*.
3. Select *Telnet* as your Transport Type.
4. Select a Model ID. The list of available models depends on your entries in the Session Type and Transport Type list boxes.
5. Type the name of the host you want to connect to in the Host Name or IP Address list box. You can also enter a valid Internet address (such as 100.01.02.03), or a name that a domain name server can resolve.
6. Click Connect.
7. After the Session Setup dialog box closes, you will see a host logon screen. Log on as you usually do.

Connecting to an IBM Mainframe Using Telnet Extended

With the Reflection Suites, you can use the Telnet Extended transport to connect to an IBM mainframe. To establish a connection over Telnet Extended, follow the procedure described on page 33 for establishing a regular Telnet connection, with the following differences:

- ▲ Specify *Telnet Extended* as your Transport Type.
- ▲ This step is optional: enter a specific device name to connect to in the Device Name (3270 terminal sessions) or Host LU Name (3270 printer sessions) text box. For 3270 printer sessions, also specify *Connect* or *Associate* as your Connection Type. See the online help for details.

Connecting to an IBM Mainframe Using Microsoft SNA Server

With the Reflection Suite for the Enterprise, you can connect to an IBM mainframe through a Microsoft SNA Server gateway.

To establish a connection through an SNA Server gateway:

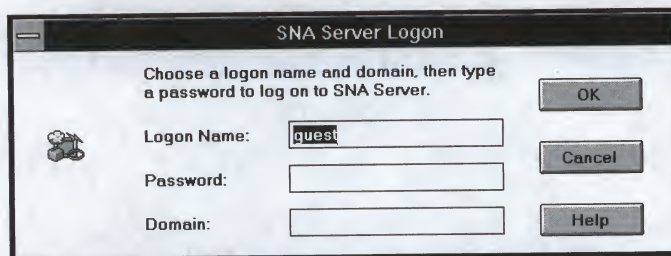
1. Open the Connection menu and click Session Setup to open the Session Setup dialog box.
2. Select a Session Type: *IBM 3270 Terminal* or *IBM 3270 Printer*.
3. Specify *MS SNA Server* as your Transport Type.

The Session Setup dialog box changes to look like this:

The screenshot shows the 'Session Setup' dialog box with the following fields and controls:

- Session Type:** A dropdown menu showing 'IBM 3270 Terminal'.
- Model ID:** A text field showing '<Any Model>'.
- Transport Type:** A dropdown menu showing 'MS SNA Server'.
- LU Name:** An empty text field.
- Connection Options:**
 - ☐ **Auto Connect**
 - Connect Script File Name:** An empty text field.
 - Script Arguments:** An empty text field.
 - Browse...** button next to the Script Arguments field.
- Buttons:** 'Connect', 'OK', 'Cancel', 'Help' are located on the right side of the dialog.

You may see the SNA Server Logon dialog box:



SNA Server Logon

Choose a logon name and domain, then type a password to log on to SNA Server.

Logon Name:

Password:

Domain:

OK Cancel Help

In most cases, you'll only see this dialog box the first time you log on to the SNA server. Enter your logon name, password, and domain, and then click OK. Be sure to enter your logon name and password for the SNA server, *not* your logon name and password for the mainframe.

4. Select a Model ID. The default is <Any Model>, which means the gateway determines which model ID to use based on the LU you connect to.
5. Specify an LU name or the name of an LU pool in the LU Name list box.

An LU (logical unit) contains configuration information for connecting to the host, including the name of the host or hosts to which you can connect. You may be able to select from a list of LU names instead of typing one—open the list box to see a list of available LUs. Otherwise, see your system administrator for a list of LUs you can use.

If load balancing exists for the specified LU name, you are connected to an LU on the least loaded SNA server.

6. Click Connect.

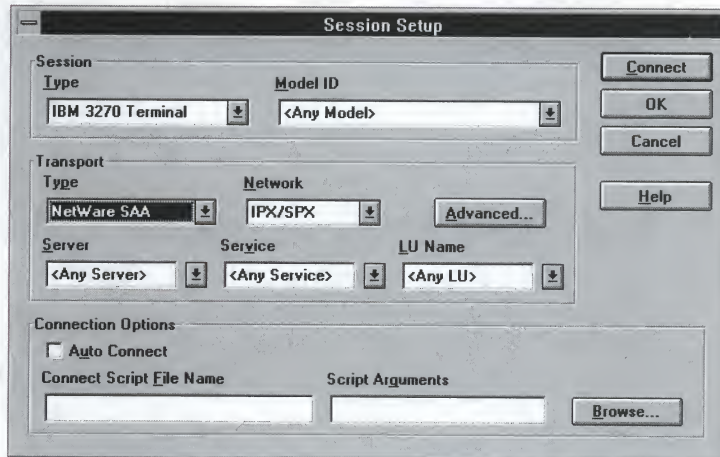
The Session Setup dialog box closes; in a few seconds you will see a host logon screen. Log on as you usually do.

Connecting to an IBM Mainframe Using NetWare SAA

With the Reflection Suite for the Enterprise, you can connect to an IBM mainframe through a NetWare SAA gateway.

To establish a connection through a NetWare SAA gateway:

1. Open the Connection menu and click Session Setup to open the Session Setup dialog box.
2. Select a Session Type: *IBM 3270 Terminal* or *IBM 3270 Printer*.
3. Specify *NetWare SAA* as your Transport Type. The Session Setup dialog box changes to look like this:



4. Select a Model ID. The list of available models varies depending on your entries in the Session Type and Transport Type list boxes. The default is *<Any Model>*, which means the gateway determines which model ID to use based on what server, service, and LU name you are connected to.

5. Fill in the appropriate information about your network type, server name, service name, and LU name. By default, Reflection will use the IPX/SPX network type, and will connect to the first available server, the first available service, and the first available LU. For a more complete description of these options, see the online help or the *Reflection 3270 User Guide*.
6. Click Connect. The Session Setup dialog box closes; in a few seconds you will see a host logon screen. Log on as you usually do.

If you lose a connection to a NetWare SAA gateway, you'll see the Waiting to Reconnect dialog box. You can do one the following:

- ▲ Click Connect Now if you know the gateway is still available. Reflection will try to reconnect immediately.
- ▲ Do nothing. Reflection will try to reconnect after the time interval specified in this dialog box.
- ▲ Click Cancel if you don't want to attempt to reconnect.

Connecting to an AS/400 Using NS/Router, NetWare SAA, or PC Support/400

With the Reflection Suite for the Enterprise, you can use NS/Router, NetWare SAA, and PC Support/400 (also known as Client Access) to connect to an AS/400 host. To connect to an AS/400 using one of these transports:

1. Open the Connection menu and click Session Setup to open the Session Setup dialog box.
2. Select a Session Type: *IBM 5250 Terminal* or *IBM 5250 Printer*.
3. Specify *NS/Router*, *NetWare SAA*, or *PC Support* as your Transport Type.
4. Select a Model ID. The list of available models varies depending on your entries in the Session Type and Transport Type list boxes.
5. Enter the name of the host you want to connect to in the System Name list box.
6. Click Connect.
7. The Session Setup dialog box closes; in a few seconds you will see a host logon screen. Log on as you usually do.

Transferring Files Between a PC and an IBM Mainframe

The Reflection Suites provide two ways to transfer files between your PC and an IBM mainframe host:

- ▲ The IND\$FILE transfer protocol (a standard for IBM mainframes)
- ▲ The FTP transfer protocol (an Internet TCP/IP standard)

Both protocols can transfer files between your PC and MVS/TSO or VM/CMS hosts. The major differences are that IND\$FILE is built into Reflection 3270, uses the terminal session to transfer data, and supports transfers to CICS hosts. FTP is a separate Windows application (Reflection FTP Client) that communicates with an FTP server application on the host, and does not support transfers to CICS hosts.

This section gives you an overview of IND\$FILE transfers. For information about FTP transfers, see page 66 or the Reflection FTP Client online help.

The IND\$FILE Transfer Dialog Box

When you are connected to an IBM mainframe as a 3270 terminal, IND\$FILE is the default file transfer protocol. Choosing Transfer from the File menu opens the Transfer dialog box:



The dialog box is divided into three zones:

Local	The zone on the left is the local area, where you choose one or more PC files to send to the host, or you provide local name and path information for a file being transferred from the host.
Transfer	The middle zone is where you initiate a transfer and provide information about how it should be performed.
Host	The zone on the right is where you choose a host file to transfer to the PC, or provide host file names for one or more files being transferred from the PC to the host. The name of this zone, and the fields in this part of the dialog box, depend on which 3270 operating environment the host is running. This may be CMS Host, TSO Host, or CICS Host. The default host system is CMS. To change the host type, open the File menu, click Transfer Setup, and select one of the other options in the Host System box.

Sending Files to an IBM Mainframe Host

To send one or more files from your PC to an IBM mainframe host:

1. Start Reflection and connect to the host as a 3270 terminal.
2. Open the File menu and click Transfer to open the Transfer dialog box.
3. Select the local files you want to send to the host.
 - ▲ Identify the drive and directory in which the file or files are located.
 - ▲ Select the file or files you want to send by clicking the filename with the mouse, or by typing the filename in the Local File Names list box.

You can send all of the files in a directory, selected files in a directory, or a single file. A “local” file doesn’t have to be on your computer—you can send files from any network drive for which you have read permission.

4. Specify transfer options (optional).

The middle zone of the Transfer dialog box specifies how a transfer should occur.

Transfer Method	Use <i>ASCII</i> if you are transferring text files with no special formatting. Use <i>Binary</i> for program files and for other types of files that should not be translated, such as files that have already been formatted for a particular type of printer. The default value is <i>Binary</i> .
If File Exists	Use this list box to specify what Reflection should do if it finds a host file with the same file specification as the host file you are trying to create. Options are <i>Ask User</i> , <i>Overwrite</i> , <i>Append</i> , and <i>Open Error</i> . The default value is <i>Overwrite</i> .
Record Format	The initial value for this list box varies according to the configured Host System (in the Transfer Setup dialog box).

Additional transfer options are available when you click the Advanced button. For more information, see the *Reflection 3270 User Guide*.

5. Provide host file specification information.

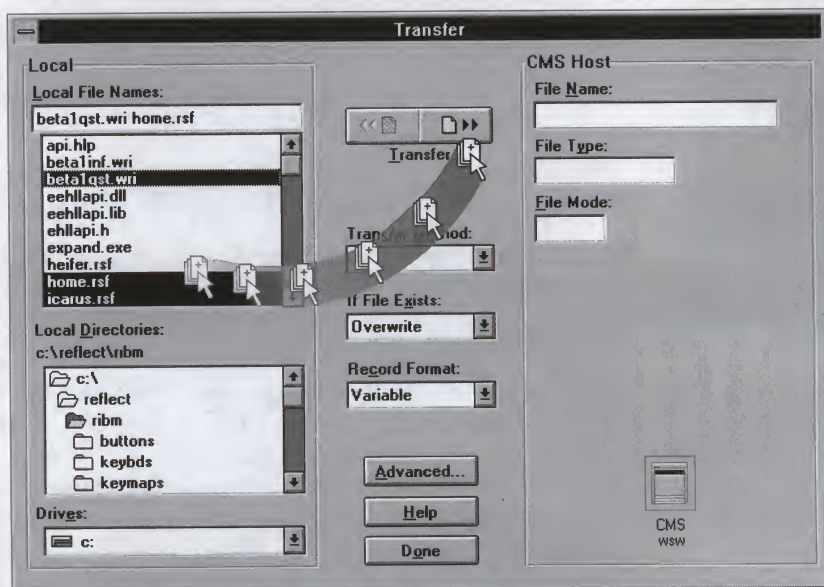
The host portion of the Transfer dialog box, where you specify the names of files you create on the host, varies according to the value of the Host System in the Transfer Setup dialog box—it's either CMS Host, TSO Host, or CICS Host. (The word "file" is used here generically to mean any collection of data that results from a transfer. Different host systems use different terms and concepts for data organization.)

CMS Host Files	If you're sending to a CMS system, enter the host File Name, File Type, and File Mode.
TSO Host Files	If you're sending to a TSO system, PDS (partition dataset type) is selected by default. Enter the Dataset Name (which must be that of an existing host dataset), Member Name, and Password, if the dataset requires one. If you select the Sequential Dataset Type, enter a Dataset Name and Password, if necessary.
CICS Host Files	If you're sending to a CICS system, enter the File Name.

In some cases, you do not need to specify complete filename information on the host—the host can automatically apply a file specification derived from the PC file name. You can also transfer multiple files to the host in a single operation. See the *Reflection 3270 User Guide* or online help for more information.

6. Start the transfer.

Drag and drop selected files directly to a host directory or to the icon representing the host. Or, start the transfer by clicking the right Transfer button.



While files are being transferred, you'll see the Transfer in Progress window.

Receiving Files from an IBM Mainframe Host

To receive a file from an IBM mainframe host:

1. Start Reflection and connect to a host as a 3270 terminal.
2. On the File menu click Transfer to open the Transfer dialog box.

3. Select the host files you want to transfer from the host to your PC. You cannot use wildcard characters when transferring a file from the host to the PC. The information you need to supply varies according to your host system.

CMS SYSTEM

If you're receiving files from a CMS system (that is, if you have set the Host System in the Transfer Setup dialog box to CMS), you can specify a File Name, a File Type, and a File Mode. The first two of these are required, the third is optional.

If you know the appropriate syntax, you can type this information in the File Name text box.

TSO System

If you're receiving files from a TSO system, PDS (partition dataset type) is selected by default; supply both a Dataset Name and a Member Name.

If you select the Sequential dataset type, you'll need to specify the name of a sequential dataset.

Provide a password if one is required.

If you know the appropriate syntax, you can type all of the required information in the Dataset Name text box.

CICS System

If you're receiving a file from a CICS system, you will need to specify the File Name.

4. Specify transfer options (optional).

Use the options in the middle part of the Transfer dialog box to specify how a transfer should occur.

If you need to change these values from the defaults, see the *Reflection 3270 User Guide* or online help for more information.

Transfer Method

Use *ASCII* for text files with no special formatting. Use *Binary* for program files and for other types of files that should not be translated, such as files that have already been formatted for a particular type of printer. The default transfer method is *Binary*.

If File Exists	Use this list box to specify what Reflection should do if it finds a PC file with the same file specification as the file you are trying to create. Options are <i>Ask User</i> , <i>Overwrite</i> , <i>Append</i> , and <i>Open Error</i> . The default value is <i>Overwrite</i> .
Record Format	This list box is ignored when you're receiving a file.
Advanced Options	Two of the options on the Advanced Options dialog box are relevant when you're receiving a file: ▲ If the CR/LF Processing check box for the type of file you're transferring is selected, a carriage return and a linefeed character are appended to each line of the file you're receiving from the host. ▲ Use the Additional IND\$FILE Parameters text box for any parameters specific to the IND\$FILE program on your host system. When Reflection generates a transfer command, it appends the contents of this text box to the end of the transfer command. Reflection does not check the contents of this text box for validity.

5. Provide PC file name information (optional).

The Local area of the File Transfer dialog box is where you specify names for files you create on the PC.

Specify a PC file name in the Local File Names text box. You can provide complete path information with the filename, or you can use the Drives and Local Directories list boxes to specify the destination directory. You can receive files to your local PC, or to any network drive for which you have write permission.

To append the host file to an existing PC file, select that file from the Local File Name area. Make sure that the If File Exists transfer option is set to *Append*.

If you set the Drives and Local Directories list boxes to specify the destination directory and leave the Local File Name text box blank, Reflection will generate a name for the PC file, using different rules for different host systems. For more information, see the Reflection 3270 *User Guide* or online help.

6. Start the transfer.

Click the left Transfer button to do this. If you don't have a mouse, press **Tab** a few times to highlight the left Transfer button and then press **←**. You can't drag and drop files to move them from the host to the PC.

While a file is being transferred, you'll see the Transfer in Progress window.

Cancelling an IND\$FILE File Transfer

To cancel a transfer in progress, click Cancel. If the host has stopped responding, Reflection terminates the transfer with a timeout message.

The Cancel button may change to an Abort button after you click it. If so, you have the option of either waiting for the host program to end gracefully (after which the Transfer in Progress window automatically closes), or you can click Abort to exit the host program immediately (if you don't want to wait or if you think the host program has stopped responding). Reflection warns you that "Choosing to abort this transfer may leave your host in an unpredictable state," and asks if you want to continue. If you respond affirmatively, the Transfer in Progress window closes. If the host session is still alive, press **F2** until the host starts responding normally (you may have to press it several times).

You can go directly from a transfer to an abort by double-clicking the Cancel button.

Transferring Files Between a PC and an AS/400

The Reflection Suites provide two ways to transfer information between your PC and an AS/400 host:

- ▲ **FTP file transfer**, using the Reflection FTP Client program that is part of the Reflection Suites. See page 65 or the Reflection FTP Client online help for more information about FTP transfers.
- ▲ **AS/400 data transfer**. A description of AS/400 data transfer is beyond the scope of this manual, but the procedure is described in detail in the Reflection for the AS/400 *User Guide* and in the online help.

For AS/400 data transfers, Reflection supports three data transfer types:

- ▲ **NS/Router:** NS/Router is a windows-based program that performs the same function as the router in IBM's PC Support/400. NS/Router is included in the Reflection Suite for the Enterprise. See the *NS/Router User Guide* for more information.
- ▲ **NetWare SAA:** You must have the NetWare SAA router installed on your PC, and PC Support installed on your PC and on the AS/400. The NetWare SAA router is available from Novell. It is not a WRQ product.
- ▲ **PC Support/400:** You must have PC Support/400 (also known as Client Access—see page 31) installed on your PC and on the AS/400. PC Support/400 is available from IBM. It is not a WRQ product.

For a complete description of the procedures you use to specify the information you want to transfer, and to transfer the information between your PC and the AS/400, see the *Reflection for the AS/400 User Guide*.

Connecting to a DEC or UNIX Host

The Reflection Suites include Reflection 2 for Windows, a software product that lets you use your PC to connect to a VMS or UNIX host as a VT-series terminal. You can establish multiple host connections, each running in its own Window.

This section briefly describes how to connect to a host using the TCP Connection and a Telnet connection type, and how to transfer files.

For a more detailed description of these procedures, and for information about customizing Reflection, see the Reflection 1, 2, and 4 *User Guide*. To find out about troubleshooting, error messages, and managing a multi-user environment, see the Reflection 1, 2, and 4 *System Administrator Guide*.

Before you start Reflection, make sure the necessary network software is installed on your PC, and that it is correctly configured. See the documentation for your network software for more information. If Reflection 2 has not been installed on your PC, see the Reflection Suites *Installation Guide*.

Getting Connected

The Reflection Suites provide several options for connecting to a VMS or UNIX host:

Best Network	Reflection can locate protocols running on your PC and automatically select the best way to connect to a host. See page 49.
Network	You can specify the protocol you want Reflection to use to connect to a host over a network. See page 51.
Modem	You can use Reflection to connect to a host over a modem. See the Reflection 1, 2, and 4 <i>User Guide</i> .
Serial Cable	You can connect to a host using a serial cable over your COM port. See the Reflection 1, 2, and 4 <i>User Guide</i> .
SLIP or PPP	You can use a serial interface to make a SLIP or PPP connection to your host through a remote access server on your network. See Chapter 4, "Connecting to a Network Using SLIP or PPP."

Simulating a Connection to a VMS or UNIX Host

The demonstration transport option provides a way to demonstrate Reflection features without establishing a host connection. You can use Reflection's demonstration mode to simulate a VMS or UNIX host connection. You can also simulate a modem connection to WRQ's technical support BBS. This is useful for training or practice.

To simulate a host connection:

1. Open the Connection menu and click Connection Setup to open the Connection Setup dialog box.
2. Select *Network* in the Connect Using group box.
3. Select *DEMONSTRATION* from the list of available networks.
4. From the Host Type list box, select the type of host connection you want to demonstrate: *DEC Host*, *Unix Host*, or *Modem*.
5. Click Connect.

Reflection now behaves as though there were a host connection.

6. The demonstration host prompts you for a login name and password. To log on to the demonstration host, press (you don't need to enter a user name or password).

You can use the following commands to simulate working with a host application:

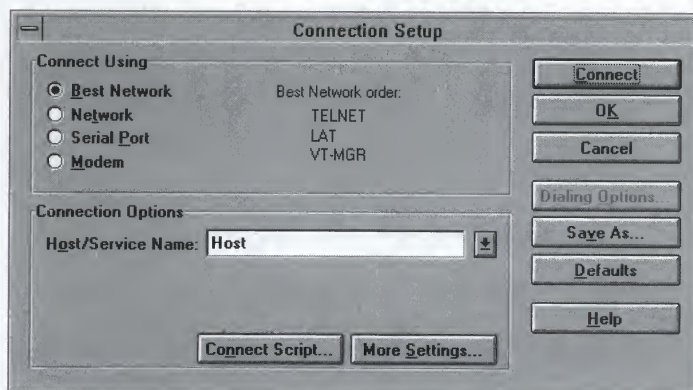
Demonstration Connection	Valid Commands
DEC Host	dir, dir/full, demodata, logout, and lo
UNIX Host	ll, ls, demodata, and exit
Modem	AT, ATDT, and +++

The Best Network Option

Reflection can use the *Best Network* feature to determine whether your PC is running the Telnet, LAT, or VT-MGR protocols. It automatically selects the best way to connect to a host.

About the Best Network Option

On startup, Reflection looks for the Telnet, LAT, and VT-MGR protocols in your PC's memory. You can see which protocols Reflection detects by choosing Connection Setup from the Connection menu:



When you first use the Best Network option, Reflection attempts to connect using each protocol listed in the Connection Setup dialog box in turn. When Reflection finds a protocol for the connection, that protocol becomes the default for every subsequent connection (using the New Session command) until you exit Reflection.

Using the Best Network Option to Connect

To connect using the Best Network option:

1. Start Reflection by double-clicking one of the Reflection 2 icons in Program Manager or the Reflection Control Center.
2. Press (Enter ↵) to open the following dialog box:



3. Enter the name of the host you want to connect to in the Host/Service Name list box.
4. Click OK.
5. Follow the prompts and log in as you usually do.

Overriding the Best Network Option

To override the protocol chosen by the Best Network option, open the Connection Setup dialog box and select the protocol you want to use. For example, if you prefer the LAT protocol but the Best Network option uses Telnet, open the Connection menu, click Connection Setup, click the Network option and click *LAT*. For more information, see “Connecting Over a Network” on page 51.

Connecting Using the Connection Directory

The Connection Directory dialog box lists connections that you use regularly. Reflection includes several useful default Connection Directory entries, and you can add your own.

Using the Connection Directory to Connect to a Host

To connect to a host using a Connection Directory entry:

1. Open the Connection menu and click Connection Directory to open the Connection Directory dialog box:



2. Select one of the entries from the Connection Directory list.
3. Click Connect or Dial, depending on the type of connection you selected.
4. Follow the prompts and log in as you usually do.

To create your own Connection Directory entries, see the Reflection 1, 2, and 4 *User Guide* or online help.

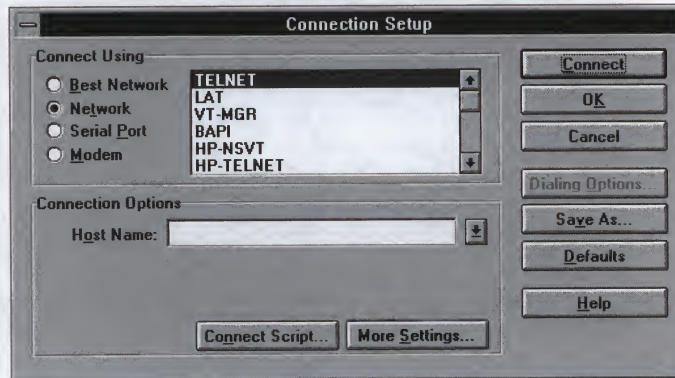
Connecting Over a Network

If you choose not to use the Best Network option, you can use Reflection to specify the host you want to connect to, and the protocol you want to use to establish the connection.

Connecting to a Host Over a Network

To establish a host connection over a network:

1. Open the Connection menu and click Connection Setup to open the Connection Setup dialog box.
2. Select *Network* in the Connect Using group box:



3. Select your connection type from the list of available network connections.
4. Fill in the information requested in the Connection Options group box, such as supplying a host name.
5. Click Connect.
6. Follow the prompts and log in as you usually do.

Reconnecting to Your Last Connection

During a Reflection session, there are two ways that you can easily reconnect to your last host connection:

- ▲ Press **Enter** (↵), or
- ▲ Open the Connection menu and click Connect.

When Reflection is not connected to a host, the name of the most recent connection appears alongside the Connect command as a placeholder until your next connection replaces it.

Transferring Files Between a PC and a VMS or UNIX Host

In order to transfer a file between your PC and a host, you will need to choose a transfer type and a protocol. Unless you choose otherwise, Reflection uses its proprietary protocol, WRQ/Reflection. If you have an Ethernet connection to the host (such as a Telnet or LAT connection), the WRQ/Reflection protocol provides file transfer speeds comparable to FTP (the high-speed Internet-standard file transfer protocol). You can also use the Zmodem, Kermit, or Xmodem public domain protocols.

Before you can use the WRQ/Reflection protocol, the host transfer program supplied with Reflection must be installed on the host. This one-time only procedure is described in the Reflection 1, 2, and 4 *System Administrator Guide*; the host program, however, has probably already been uploaded for you.

Sending Files to a VMS or UNIX Host

To send one or more files from your PC to a VMS or UNIX host:

1. Start Reflection and connect to the host.
2. Open the File menu and click Transfer to open the File Transfer dialog box.



3. If you are using the WRQ/Reflection protocol, you can click the Show Host Files button to list the files in the current host directory. In order to transfer PC files to a host directory, you must have permission to read, write, and save files to that directory.
4. Select the local files you want to send to the host.

- ▲ Identify the drive and directory in which the file or files are located.
- ▲ Select the file or files you want to send by clicking the file name with the mouse, or by typing the file name in the Local File Names list box.

You can send all of the files in a directory, selected files in a directory, or a single file. A “local” file doesn’t have to be on your computer—you can send files from any network drive for which you have read permission.

5. Specify transfer options.

The middle zone of the Transfer dialog box specifies how a transfer should occur.

Transfer Type	Use <i>ASCII</i> if you are transferring text files with no special formatting. Use <i>Binary</i> for program files and for other types of files that should not be translated, such as files that have already been formatted for a particular type of printer. The default value is <i>ASCII</i> .
---------------	--

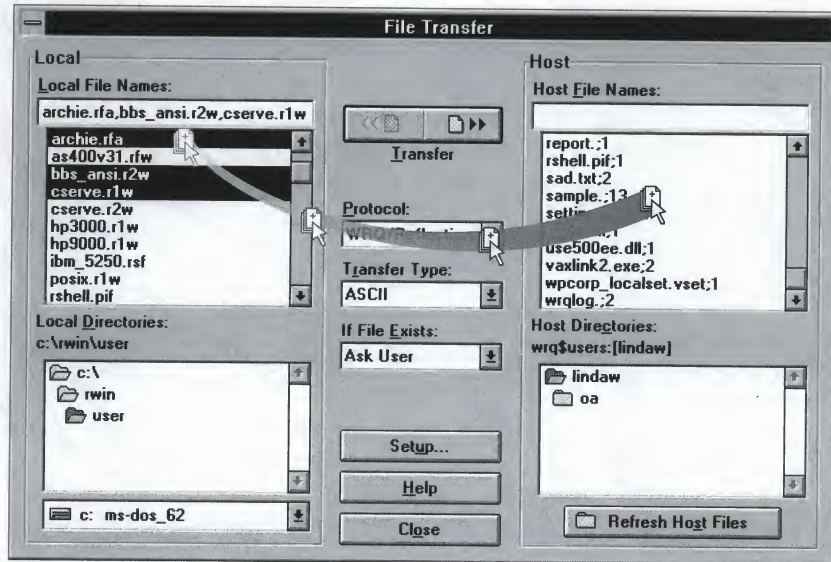
If File Exists	Use this list box to specify what Reflection should do if it finds a host file with the same file specification as the host file you are trying to create. Options depend on the protocol you are using and the kind of host you are connected to—see the Reflection 1, 2, and 4 <i>User Guide</i> or online help for details. The default value is <i>Ask User</i> .
----------------	---

6. Provide host file specification information (optional).

The Host area of the File Transfer dialog box is where you specify names for files you create on the host. File names must satisfy host system rules. For transfers to a VMS host, you can enter logical names.

If you do not provide complete file information for a PC file when it is transferred to the host, the host will automatically apply a file specification derived from the PC file name

7. Start the transfer. Drag-and-drop selected files directly to a host directory or to the icon representing the host. Or, start the transfer by clicking the right Transfer button.



The File Transfer dialog box also supports drag-and-drop file transfer from Windows File Manager. See the Reflection 1, 2, and 4 *User Guide* for more information.

Receiving Files from a VMS or UNIX Host

To receive a file from a VMS or UNIX host:

1. Start Reflection and connect to the host.
2. Open the File menu and click Transfer to open the File Transfer dialog box.
3. If you are using the WRQ/Reflection protocol, you can click the Show Host Files button to list the files in the current host directory. If you have already listed the host files, click the Refresh Host Files button to update the host directory file listing.
4. Select the files you want to transfer from the host to your PC.

5. Specify the file transfer options. See page 54 for a description of these options.
6. Provide PC file name information (optional)

The Local area of the File Transfer dialog box is where you specify names for files you create on the PC.

Specify a PC file name in the Local File Names text box. You can provide complete path information with the file name, or you can use the Drives and Local Directories list boxes to specify the destination directory. You can receive files to your local PC, or to any network drive for which you have write permission.

To append the host file to an existing PC file, select that file from the Local File Name area. Make sure that the If File Exists transfer option is set to *Append*.

If you set the Drives and Local Directories list boxes to specify the destination directory and leave the Local File Name text box blank, Reflection will generate a name for the PC file.

7. Start the transfer. Drag-and-drop the files from the host to your PC, following the same process outlined above for sending files to the host. The Local File Name list is updated so new files display immediately after the transfer.

Connecting to a Network Using SLIP or PPP

Using SLIP or PPP, you can connect to servers on remote TCP/IP networks over serial connections.

When you use SLIP or PPP, you typically use a modem to dial and log in to a *remote access server*, which provides a gateway to a TCP/IP network. Once you are connected to a server, you can use TCP/IP protocols (such as Telnet and FTP) to connect to host computers and servers on the remote network, just as you do when you are directly connected to a network.

This chapter provides a brief introduction to using SLIP and PPP. Additional information is available in online help and in the *Reflection Network Series System Administrator Guide*.

Getting Connected

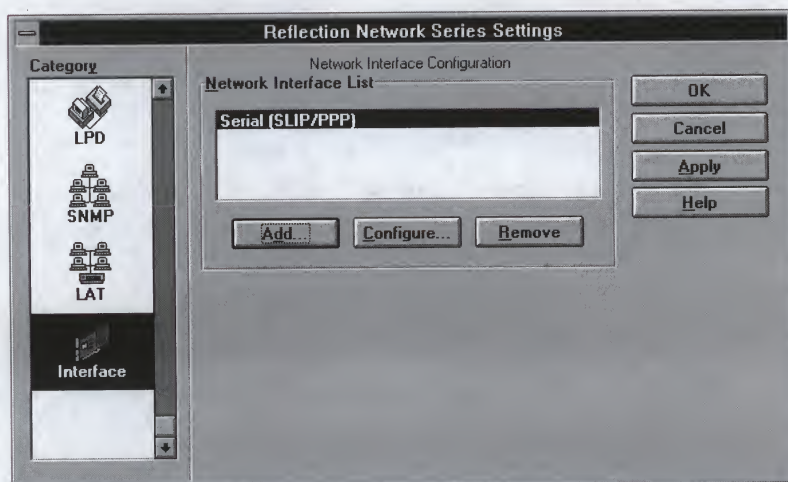
The Reflection Basic program SLIPC500.RBS operates in the background when you make a SLIP or PPP connection. SLIPC500.RBS works with Connect Command Files that can be customized to dial and log in to your remote access servers.

The default Connect Command File is DEFAULT.CCF. DEFAULT.CCF is a generic script that dials your modem and then opens a TTY window so that you can log in to a remote access server manually.

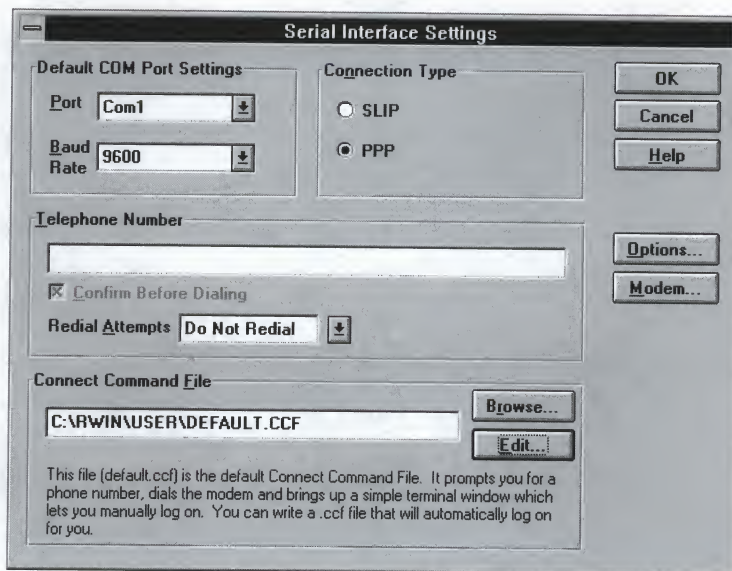
Serial Interface Configuration

Before you use DEFAULT.CCF, make sure that you have configured your Reflection networking software for a serial interface, and that you have configured your serial interface settings correctly:

1. Open the Reflection group in Program Manager.
2. Double-click the Control Center icon to open the Reflection Control Center.
3. Click the Network tab to display the icons for the Reflection networking software.
4. Double-click the Network Configuration icon to start the Network Configuration utility.
5. Scroll through the Category box and select the Interface icon. The Network Interface Configuration window appears.



6. Select Serial (SLIP/PPP) from the Network Interface List and click Configure to open the Serial Interface Settings dialog box.



- ▲ If the serial option does not appear, you have not configured your software for a serial interface. See “Adding a Serial Interface” on page 62 for help.
 - ▲ If you have more than one interface, you may need to disable interfaces or create static routes to your destinations to assure that your serial interface is used. See online help or the *Reflection Network Series System Administrator Guide* for more information.
7. In the Serial Interface Settings dialog box, make sure that Port and Baud Rate are correctly configured for your modem, that the Connection Type (SLIP or PPP) is the correct one for your remote access server, and that DEFAULT.CCF is specified in the Connect Command File box.

In most cases, you can use default settings for all other items in the serial interface dialog boxes.

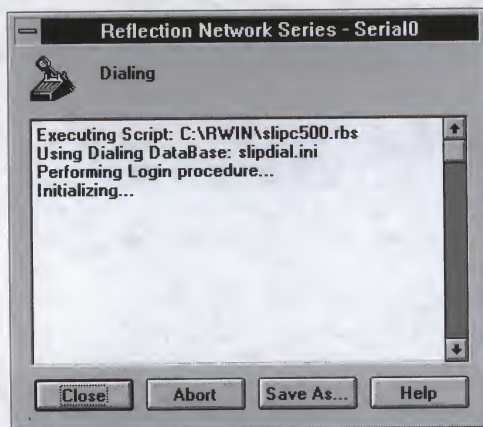
8. Click OK to close the Serial Interface Settings dialog box.
9. Click OK to exit the Network Configuration utility.

Using DEFAULT.CCF

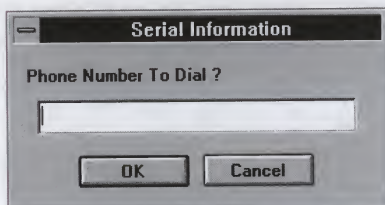
To use DEFAULT.CCF to log in to a remote access server:

1. Start a Windows Sockets compatible application, such as Reflection 2 or Reflection for IBM.
2. Configure your application to use a TCP/IP protocol, such as Telnet.
3. Request a connection to a host computer or server on the remote TCP/IP network.

When your application is ready to send its first IP packet, the Reflection networking software starts and displays the Host Response window, which provides feedback on the progress of your serial connection process.

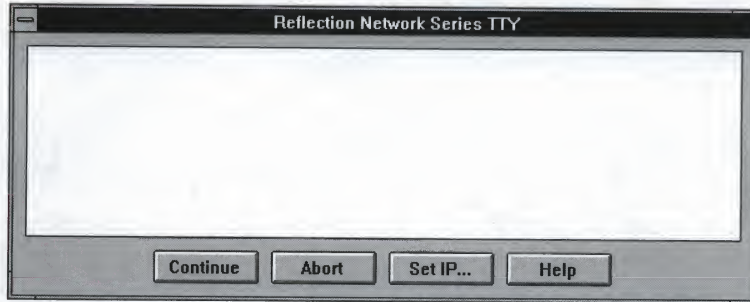


4. You are prompted for the telephone number of your remote access server.



Enter the number and click OK.

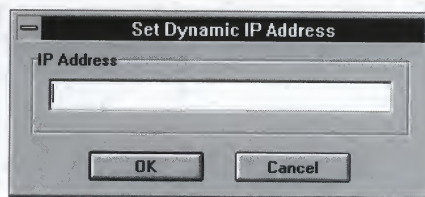
5. If a modem connection is established, a TTY window opens.



This window provides a simple terminal interface that allows you to see and respond to prompts from the remote access server. Use the TTY window to log in to the remote access server manually.

Remote IP Address Over SLIP: If you're using remote (dynamic) configuration for a SLIP connection, you must take the following steps to configure your software for the IP address assigned by the server. (If you are using PPP, remote configuration is handled automatically.)

- a) Make note of your IP address when it is assigned by the server.
- b) In the TTY window, click the Set IP button to open this dialog box:

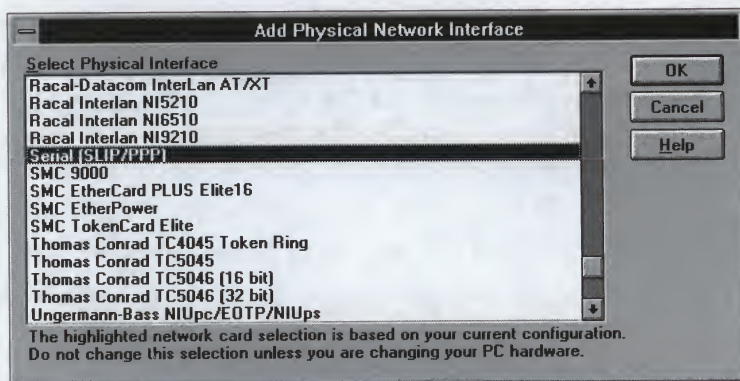


- c) Type your IP address assignment and click OK. ▲
6. When you have finished logging in, click Continue to close the TTY window.
- Once your SLIP or PPP connection is established and IP transmissions begin, the Host Response window closes automatically.

Adding a Serial Interface

If you did not select a Serial (SLIP/PPP) interface when you installed the Reflection Suite, you can add a serial interface to your network interface configuration as follows:

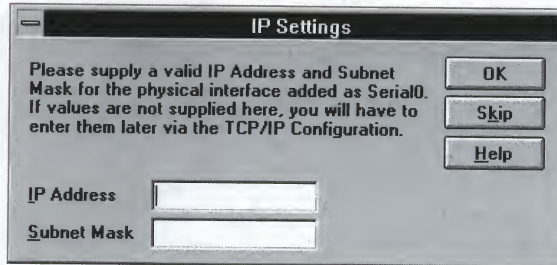
1. Use the Reflection Control Center to start the Network Configuration utility.
2. In the Category box, select the Interface icon. The Network Interface Configuration window appears.
3. To add a serial interface, click Add in the Network Interface Configuration window.
4. In the Add Physical Network Interface dialog box, select Serial (SLIP/PPP) and click OK.



5. In the Serial Interface Settings dialog box:
 - ▲ Select the Port and Baud Rate settings for your modem.
 - ▲ Specify the Connection Type (*SLIP* or *PPP*) that your remote access server supports.

Click OK to close the Serial Interface Settings dialog box.

6. Click Apply in the Network Interface Configuration window. The following dialog box opens:

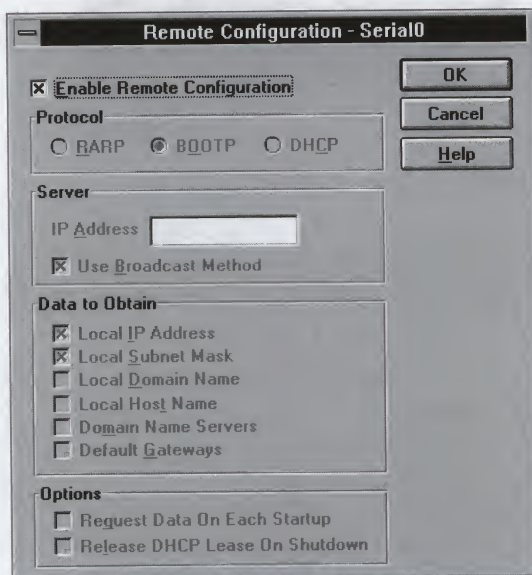


- ▲ If you plan to use a local (static) IP Address for your serial interface, enter the address and a Subnet Mask, and click OK.
- ▲ If you plan to use remote (dynamic) IP configuration, choose Skip in the IP Settings dialog box.

To configure your serial interface for remote configuration, take the following steps *before* you exit the Network Configuration utility:

1. Scroll through the Category box and select the TCP/IP icon. The TCP/IP Configuration window appears.
2. Select your serial interface from the Interface list box, for example, "Serial0."
3. Click Remote to open the Remote Configuration dialog box.

4. Select the Enable Remote Configuration check box. When you enable remote configuration for a serial interface, the other items in the Remote Configuration dialog box are disabled.



5. Click OK to close the Remote Configuration dialog box.
6. Click OK to exit the Network Configuration utility.

Using Network Applications and Utilities

The Reflection Suites include the Reflection Network Series TCP Connection, which provides Microsoft Windows-based TCP/IP software and a Windows Sockets interface to support Reflection Suites products and other Windows Sockets compatible applications. Along with host connections in Reflection, you can have simultaneous access to PC local area networks such as Novell NetWare, LAN Manager, or Windows for Workgroups.

The TCP Connection also includes several network applications and utilities that give you access to FTP servers and remote printers, allow you to associate remote hosts or servers with local drives on your PC, and help diagnose network problems.

This chapter briefly explains how to use a number of these applications: Reflection FTP Client, Reflection NFS Client, and LPR.

The Reflection Network Series *System Administrator Guide* describes in detail all of the network applications and utilities included with the Reflection Suites.

Using the Reflection FTP Client

Reflection FTP Client is a Windows application that you can use to move files between your PC and a host server. Using Reflection FTP, you can connect to an FTP server running on a UNIX, VMS, IBM, HP, or other host. You'll find the high speed of FTP transfers particularly useful for transferring large files.

The Reflection Network Series includes two different FTP applications—FTP Client and FTP Server. This chapter introduces the FTP Client, or “Reflection FTP.” See the Reflection Network Series *System Administrator Guide*, or the Reflection Network Series online help to find out about FTP Server.

Starting Reflection FTP

After starting Microsoft Windows, double-click the icon labeled “FTP” in the Reflection program group, or the Control Center Network group.

You can also start the Reflection FTP Client from Reflection 2 for Windows. On the Reflection 2 File menu, click New Session, select Reflection FTP, and click OK.

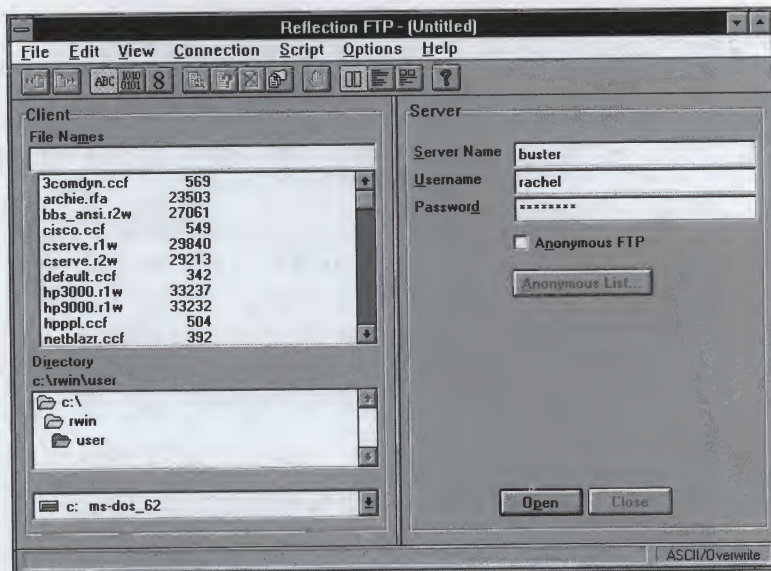
You’ll see the Reflection mountain startup screen for a few seconds, and then the Reflection FTP screen.

Connecting to an FTP Server

To connect to an FTP server:

1. Start the Reflection FTP Client by double-clicking the FTP icon.

If you are starting Reflection FTP for the first time, or have not previously saved a default settings file, you will see the Reflection FTP screen with a title bar that reads *Reflection FTP - (Untitled)*. If the Reflection FTP title bar shows something other than Untitled, open the File menu and click New to reset Reflection FTP to its factory defaults.



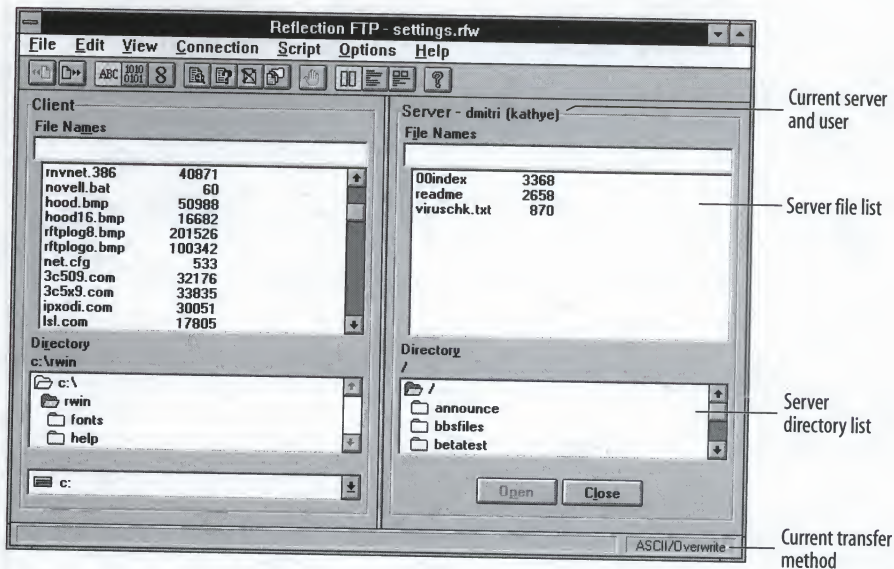
2. In the Server Name text box, enter the name of the FTP server to which you want to connect. Reflection will use the Hosts file on your PC or the domain name server on your network to resolve the server name to an IP address. If you don't have a domain name server on the local network and don't use a Hosts file, you must specify the full IP address of the host FTP server (for example, 124.24.36.85).
3. In the Username text box, enter your user name as it is registered on the FTP server.
4. In the Password text box, enter your FTP server password.
5. Click Open. Reflection FTP opens a connection to the server and logs in using the connection information you provided.

Some FTP servers request an account name as part of the login sequence. If so, you'll be prompted to enter an account name as part of the connection process.

If you want to log in to an anonymous FTP server, see the online help for details.

If your site uses a passthrough server or firewall to ensure that only authorized users have access to FTP sites, you can set up the FTP Client for this kind of connection. Check with your system administrator or see the online help for details.

After you log in, the server side of the Reflection FTP window displays a list of the files in the current server directory and a list of available server directories:



Saving Your Connection Settings

If you have connected to an FTP server that you plan to use frequently, you can save your current connection information to a Reflection FTP settings file. By default, Reflection FTP settings files have the extension `.RFW`.

If you create a settings file called `SETTINGS.RFW`, Reflection FTP automatically loads this file at startup. If Reflection FTP does not find this file, it starts with its factory default settings and an untitled window appears.

Transferring Files

You can use Reflection's FTP Client to transfer any type of file from the host to your PC, or from your PC to the host.

You can transfer files using buttons on the toolbar, the Put and Get commands on the File menu, or by dragging them from the source directory and dropping them on the destination directory.

Sending Files to the Host

To send a PC client file to an FTP server on the host:

1. Start Reflection FTP and connect to your FTP server (see page 66 for details).
2. Select the local file or files you want to send to the host.
 - ▲ Identify the drive and directory in which the file or files are located.
 - ▲ Select the file or files you want to send by clicking the file name in the Client File Names list, or by typing the file name in the Client File Names text box.
3. Open the Options menu to specify transfer options.
 - ▲ Select a file transfer method to indicate what type of file you are transferring and to determine how Reflection should handle the data during the transfer.

The two most common methods are *ASCII* and *Binary*. Use *ASCII* if you are transferring text files that can be opened and read in the Reflection FTP Preview window. Use *Binary* to transfer binary files, such as program-specific files, between two PCs (via a server), or between two servers (via a PC). The default value is *ASCII*.

- ▲ Use the *If File Exists* menu option to indicate what Reflection FTP should do if the file already exists in the target location. Submenu options are *Append*, *Ask User*, *Cancel*, *Overwrite*, *Skip*, and *Unique*. See the online help if you are not sure which option to choose. The default value is *Overwrite*.
4. Provide host file specification information.

If you want to give the transferred file a different name on the host, type the host file name in the Server File Names text box. If you don't enter a host file name, the transferred file will have the same name on the host as it had on your PC. You can't specify a new host file name if you use the drag-and-drop method to transfer files (see below).
 5. Start the transfer. There are three ways to do this:
 - ▲ Open the File menu and click Put.
 - ▲ Click the Transfer to Server (Put) button on the button bar.
 - ▲ Drag the selected file or files from the Client File Names text box to the Server File Names box. The transferred files will have the same file names on the host as they had on your PC.

The File Transfer in Progress window opens when the transfer begins.

Receiving Files to the PC

To transfer a host file to your PC:

1. Start Reflection FTP and connect to your FTP server (see page 66 for details).
2. Select the host file or files you want to transfer from the host to your PC.
 - ▲ Identify the directory in which the file or files are located.
 - ▲ Select the file or files you want to transfer by clicking the file name in the Server File Names list, or by typing the file name in the Server File Names text box.

3. Open the Options menu to specify transfer options.

- ▲ Select a file transfer method to indicate what type of file you are transferring and to determine how Reflection should handle the data during the transfer.

The two most common methods are *ASCII* and *Binary*. Use *ASCII* if you are transferring text files that can be opened and read in the Reflection FTP Preview window. Use *Binary* to transfer binary files, such as program-specific files, between two PCs (via a server), or between two servers (via a PC). The default value is *ASCII*.

- ▲ Use the *If File Exists* menu option to indicate what Reflection FTP should do if the file already exists in the target location. Submenu options are *Append*, *Ask User*, *Cancel*, *Overwrite*, *Skip*, and *Unique*. See the online help if you are not sure which option to choose. The default value is *Overwrite*.

4. Provide PC file name information (optional).

If you want to give the transferred file a different name on your PC, type the PC file name (and path, if necessary) in the Client File Names text box, or you can use the Client Drive and Directory list boxes to specify the destination directory.

If you don't enter a PC file name, the transferred file will have the same name on your PC as it had on the host. Reflection automatically generates a valid DOS file name if the server file name is too long, or if it contains invalid characters. You can't specify a PC file name if you use the drag-and-drop method to transfer files (see below).

You can receive files to your local PC, or to any network drive for which you have write permission.

5. Start the transfer. There are three ways to do this:

- ▲ Open the File menu and click Get.
- ▲ Click the Transfer to PC (Get) button.
- ▲ Drag the selected file or files from the Server File Names text box to the Client File Names box. The transferred files will have the same file names on your PC as they had on the host.

The File Transfer in Progress window opens when the transfer begins.

Deleting Files

Reflection FTP allows you to delete selected files from the current PC or FTP server directory (provided you have privileges to delete server files). You can select multiple files and delete them in a single operation.

To delete a file:

1. Select the file or files you want to delete in the Server File Names list box or the Client File Names list box.
2. Drag the selected file to the Delete button on the button bar (or click the Delete button if you prefer).

You can also press the **delete** key on your keyboard, or open the File menu and click Delete.

3. Reflection FTP prompts you to confirm that you want to delete the file. When you click OK, Reflection FTP deletes the file and refreshes the directory listing.

Using the Reflection NFS Client

The Reflection Network Series NFS Client makes it possible for you to connect to remote hosts or servers and associate them with local drives on your PC. You can then use Windows applications and DOS commands to copy, delete, execute, edit, and view the files on the remote servers. You can also use NFS to associate remote host printers with your PC printer ports—for example, LPT2—so you can send print jobs to an NFS printer from Windows or DOS.

To use the NFS Client, certain NFS software must be present on the remote servers. If you do not know if you are set up to use NFS, check with your system administrator.

Logging In to an NFS Authentication Server

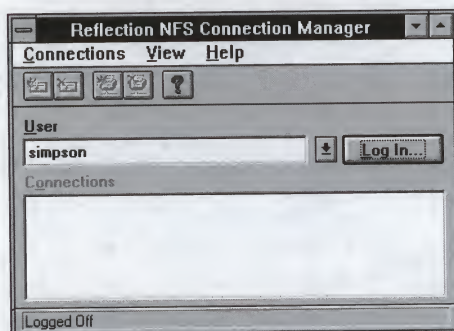
You must log in to the NFS authentication server before you can open any connections to remote drives and devices.

Note: If your site does not have the PCNFS daemon on any NFS server, you must use an anonymous login for access to NFS servers. Check with your system administrator to find out if an anonymous login is necessary. ▲

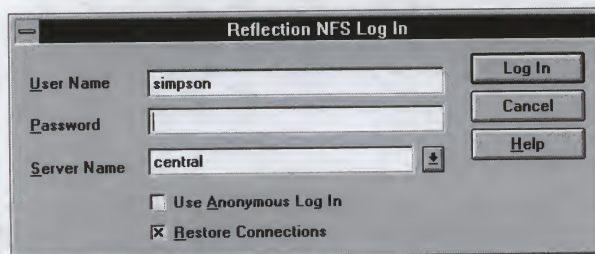
There are many ways to open the NFS Log In dialog box; two of them are described here. For information on other ways to log in, see the online help.

Logging In Using the NFS Connection Manager

1. Double-click the NFS Connection Manager icon to open the NFS Connection Manager application.



2. Click the Log In button to open the following dialog box:



3. In the User Name text box, enter your user name for the NFS server. The user name is typically case sensitive.
4. In the Password text box, enter your password for the NFS server. The password is typically case sensitive.
5. In the Server Name text box, enter the name or IP address of the NFS server that provides your network with authentication services. This must be an NFS server running the PCNFS program. You can also select a server name from the list; the names shown come from your Hosts file, if present on your PC.

Note: After your initial login, the User Name and Server Name are saved as defaults for your next login. You'll still need to enter your password, however. ▲

6. Keep the Restore Connections check box selected if you want NFS to automatically restore connections to the remote file systems and printers that were active during your last Windows session.
7. Click the Log In button to log in to the network and obtain authentication. If authentication succeeds, the status line in the NFS Connection Manager window shows your user name and server name. If authentication fails, an error message tells you why.

Logging In at Startup

When NFS was installed on your PC, the NFS Client may have been configured so that the NFS Log In dialog box appears automatically when you start Windows. This is handy if you use NFS connections frequently. To configure your PC for login at startup:

1. Double-click the Network Configuration icon to open the Reflection Network Series Settings window. If you don't see this icon, use the Settings option from the RNS icon menu.
2. In the Category scrolling window, click NFS to display the NFS configuration options.
3. Select the Log In at Startup check box.

The next time you start Windows, the NFS Log In dialog box will appear automatically.

Note: If the Log In at Startup check box is not available, it is probably because of the way NFS was installed on your PC. NFS must be integrated with the Windows Network for this check box to be available. Ask your system administrator, or see the online help for more information. ▲

Logging Out Using the Connection Manager

When you no longer need access to remote file systems and printers, you should log out of the network. Doing so prevents others from using your PC to gain access to network services. Click the Log Out button in the NFS Connection Manager. If you have connected to any remote drives or printers, all of the remote devices are disconnected when you log out.

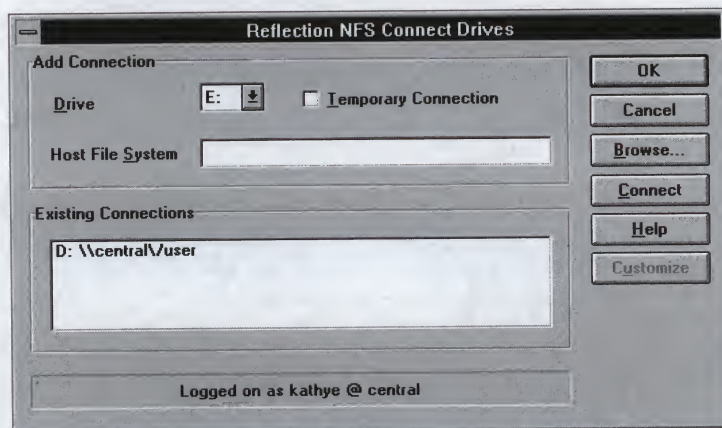
Note: NFS warns you if you are attempting to log out with a file still open on a remote file system. If you disconnect without first closing the open file, the application that was using that file may be unable to recover and you may need to reboot your PC. ▲

After you log out, the status line at the bottom of the NFS Connection Manager window displays the message “Logged Off.”

Connecting to Remote File Systems

It is likely that your system administrator has configured your PC to automatically connect to the appropriate remote file systems. However, if you need to connect a remote file system to a PC drive letter, follow these steps:

1. Double-click the NFS Connection Manager icon to open the NFS Connection Manager application. Log in as described on page 71.
2. Click the Connect Drive button or open the Connections menu and click Connect to Network Drive. This opens the NFS Connect Drives dialog box. (The NFS Connect Drives dialog box may also be available from the File Manager. See the NFS Connection Manager online help.)

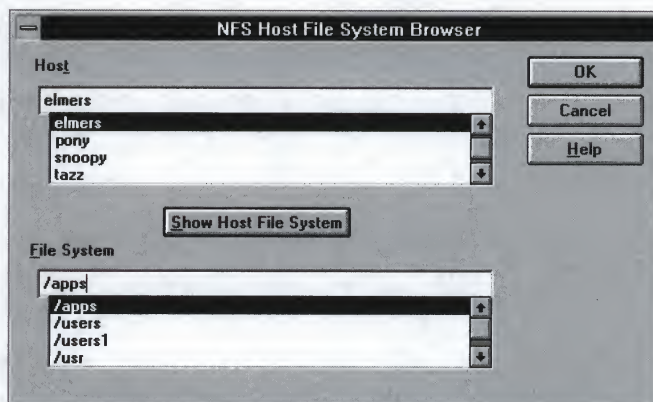


Note: If you have already used all of the DOS drive letters that are available for NFS connections, you will see a warning message. (The drive letters that are available depend on the LASTDRIVE setting in your CONFIG.SYS file, and on which drives are owned by other redirectors, such as NetWare.) If you have no drives available for NFS connections, check with your system administrator. ▲

3. In the Drive list, select the drive letter that will be mapped to the remote file system.
4. In the Host File System text box, enter the name of the remote file system you want to connect to. It's easiest to identify the system by browsing your hosts for available file systems.

To browse:

- a) Click the Browse button to open the following dialog box:



- b) Select a host name from the Host list, or enter the name or IP address of an NFS server on the network.
- c) Click the Show Host File System button to search for file systems on the selected host. If the host does not exist, does not support NFS, or cannot be resolved to an Internet address, you will see an error message.
- d) Select the file system you want to connect to, or enter a file system name in the text box.
- e) Once the name of the file system appears in the File System text box, click OK to return to the NFS Connect Drives dialog box. The host name and file system are displayed in the Host File System text box with the correct syntax for connecting.

If you prefer to type in the file system name, use the following syntax in the NFS Connect Drives dialog box:

`<host>:<name>`

or

`\\<host>\<name>`

The `<host>` is the name or Internet address of an NFS server on the network. The `<name>` is the name of the remote file system, using the host's file system syntax (for example, `/users/rachel`).

5. By default, the NFS Client automatically saves information about the connection (so that the connection can be restored each time you start Windows). If you want to discard information about this connection when you exit Windows or log out of the authentication server, select the Temporary Connection check box.
6. Click Connect to connect to the remote system and keep the NFS Connect Drives dialog box open. Click OK to connect to the remote system and close the Connect Drives dialog box.

After a few moments, the new connection appears in the Existing Connections list. If the connection fails, an error message tells you why.

Working with Remote Files

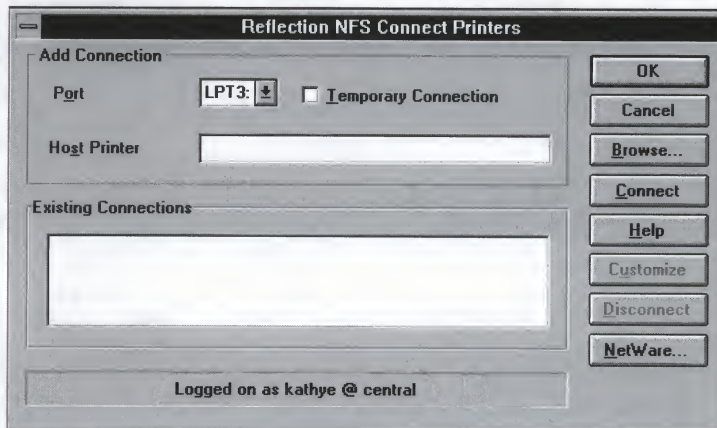
Once you have an NFS drive on your PC, you can use it like any other local PC drive. You can work with the files in Windows using File Manager, a DOS session, or Program Manager. Depending on the file permissions you have on the NFS server, you can execute, move, copy, delete, rename, and create files, and change file attributes. There is one primary difference between files on an NFS drive and those on a local PC drive: file names on the NFS drive may be altered due to differences in naming conventions on DOS systems versus the native file system on the NFS server. Subdirectory names may also be altered. When working with one of these files or subdirectories, you must use the altered name. See the NFS Connection Manager online help for details about how NFS handles file system differences.

Connecting to Remote Printers

It is likely that your system administrator has configured your PC to automatically connect to a remote NFS printer. If you need to make the connection yourself, follow these steps:

To connect a remote printer to a PC device:

1. Double-click the NFS Connection Manager icon to open the NFS Connection Manager application.
2. Click the Connect Printer button on the toolbar, or open the Connections menu and click Connect to Network Printer to open the NFS Connect Printers dialog box. (The NFS Connect Printers dialog box may also be available from Windows Print Manager and Control Panel. See the NFS Connection Manager online help.)

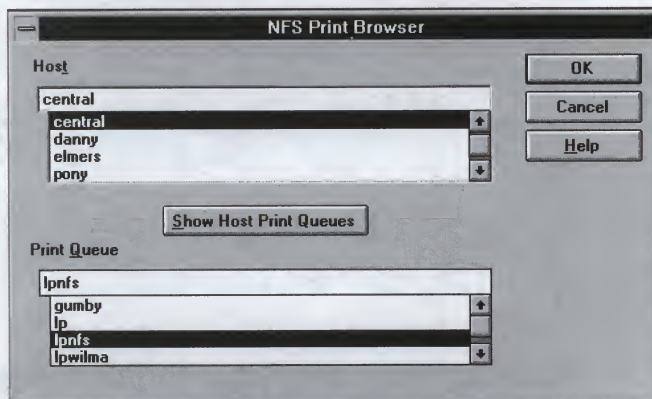


Note: If you have already connected all your PC printer ports, a message indicates that all available ports are in use. Which PC printer ports are available depends on how your system is configured. If you have no available printer ports, check with your system administrator. ▲

3. In the Port list, select the PC printer port that will be mapped to the remote printer.
4. In the Host Printer text box, enter the name of the remote printer you want to connect to. It's easiest to identify the printer by browsing the existing host print queues.

To browse for a print queue:

- a) Click the Browse button to open the NFS Print Browser dialog box.



- b) Select a host name from the Host list, or enter the name or Internet address of an NFS server on the network.
- c) Click the Show Host Print Queues button to search for printers on the selected host. If the host does not exist, does not support NFS, or cannot be resolved to an Internet address, you will see an error message. (If the print queues do not appear, it could be due to the version of the print daemon running on the NFS server. Version 1 of the print daemon does not supply information about print queues. Check with your system administrator.)
- d) From the Print Queue list, select the printer you want to connect to, or enter a printer name in the text box. (If you have determined that the server is running version 1 of the print daemon, type in the name of a print queue.)
- e) When the selected printer appears in the Print Queue text box, click OK to return to the NFS Connect Printers dialog box. The host name and printer name are displayed in the Host Printer text box with the correct syntax for connecting.

If you prefer to type in the printer name, use this syntax in the Connect Printers dialog box:

`<host>:<name>`

or

`\\<host>\<name>`

The `<host>` is the name or IP address of an NFS server on the network. The `<name>` is the name of the remote printer as defined by the Print Setup utility on your server.

5. To preserve information about the connection (so that the connection can be restored each time you start Windows), keep the Temporary Connection check box cleared. If you want to discard the information about this connection when you exit Windows or log out of the authentication server, select the Temporary Connection check box.
6. Click Connect to connect to the remote printer and stay in the NFS Connect Printers dialog box. Click OK to connect to the remote printer and close the Connect Printers dialog box.

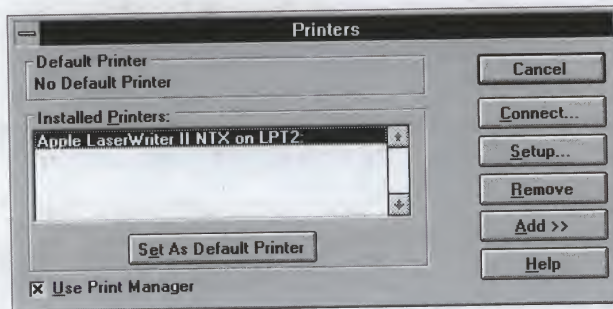
After a few moments, the new connection appears in the Existing Connections list. If the connection fails, an error message tells you why.

7. If you want to use the remote printer with Windows applications, you must install a printer driver file for the printer you want to use, described next.

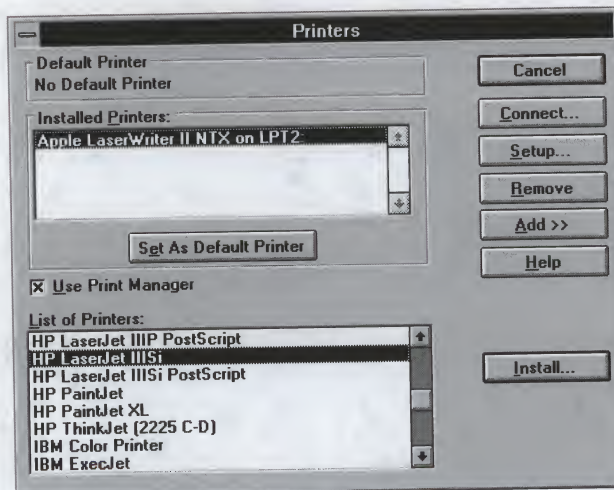
Installing a Printer Driver File

To use a remote printer with Windows applications, you must connect the printer to a PC printer port and install a printer driver for the printer you want to use.

1. Double-click the Control Panel icon in the Main program group.
2. Double-click the Printers icon in the Control Panel program group to open the Printers dialog box.



3. Click Add and select a printer matching the host printer type from the List of Printers.



4. Click Install to install the printer.

If the printer driver file for the printer you selected is not already installed, you will be prompted to install it from one of the disks included with Windows or from a disk provided by your printer vendor.

5. After confirming the printer type and port are correct for the remote printer connection, click Close.

Printing from a Windows Application

To use a remote NFS printer with Windows applications, follow the steps above to connect the remote printer to a PC printer port and to install a printer driver for the printer you want to use.

When you are ready to print from a Windows application, use the Print Setup dialog box (usually available from the Print command on the File menu) to make the remote printer the active printer. See your Windows documentation for information about how to use the Print Setup dialog box. Once the NFS printer is the active printer, print as you usually would. The printout is sent to the remote NFS printer.

Printing from a DOS Session Window

To send a file to a remote NFS printer while in a DOS session window, use the DOS COPY command to direct the file to the printer port that the remote printer is connected to. For example, to send the file LETTER.DOC to an NFS printer connected to LPT1, enter this command at the DOS prompt:

```
copy LETTER.DOC LPT1
```

You can also use the print options available in a DOS application running in a DOS session within Windows. Printouts created by DOS applications that write to LPT1, LPT2, and LPT3 are queued to the remote NFS printer when the application closes the file.

Note: If NFS was not installed as your Windows Network, then NFS printers will only be available from DOS sessions within Windows. ▲

Identifying Your Print Jobs

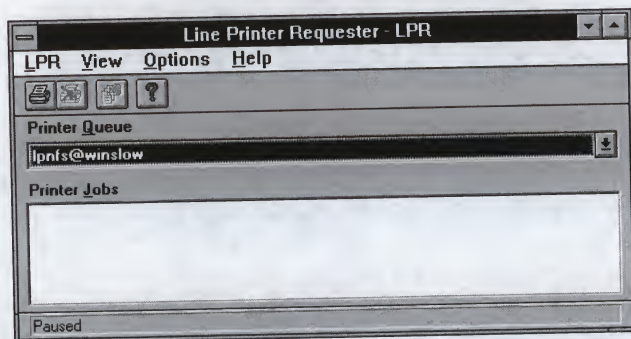
The NFS client uses the name with which you logged in to NFS to identify you as the owner of your print jobs. This name will appear on any print job banner page. If accounting is enabled for the host printer, the name you logged in with is listed as the user name for jobs you own.

Printing with LPR

LPR (Line Printer Requester) allows you to submit print jobs to a host queue on the network. The host you're sending the job to must offer LPD print services, and you must have print privileges. Your system administrator can tell you whether these services are available. LPR supports a variety of print formats.

After setting up LPR, you can use the options in the LPR window to send print jobs directly to a host printer and to check the status of existing print jobs. Depending on the privileges you have on the host, you may also be able to use LPR to view and remove print jobs.

To start and to configure LPR, double-click the LPR icon.



LPR Options

There are three ways you can use LPR to submit a job to a host print queue:

- ▲ Print an existing file. This is called direct printing.
- ▲ Print from Windows applications—for example, you can choose an LPR Printer as your print destination from within your word processor or spreadsheet.
- ▲ Print from a DOS session.

Setting Up and Using Direct Printing

To print a file that has already been created and saved:

1. Double-click the LPR icon to open the LPR window. Make sure you have defined at least one printer queue.
2. Select Print from the LPR menu.
3. Use the LPR Print dialog box to select the file or files you want to print.

Enter one or more filenames in the text box, or select (highlight) one or more files from the listing directly below the text box.

You can also select the files and click the Print button on the LPR toolbar, or drag files from the File Manager and drop them onto the LPR application.

You can use DOS wildcard characters (the ? and * characters) in the text box to specify multiple files.

Click OK.

4. In the Print Job dialog box, you can override the default settings for print file type and print banner associated with the print queue you have selected. Click OK.
5. The selected files are printed to the currently selected queue. Your print job appears in the Printer Jobs window until printing is complete.

If you send multiple files in a single job request, the job identifier will be the first file name in the selected group. You can choose to remove or pause a job consisting of several files, but you cannot remove or pause each file in the job selectively.

Setting Up for Printing from Another Windows Application

Follow these steps to set up and use LPR for printing from a Windows application—for example, choosing an LPR printer as your print destination from within your work processor or spreadsheet.

1. Double-click the LPR icon to open the LPR window. LPR must be running in order to print from other applications.
2. Make sure you have at least one printer queue defined. See page 85.
3. Make sure at least one watch job has been created. See page 87.
4. Open the Windows application you want to print from. Select Print or Print Setup from the application's File menu. The list of available printers will include any watch jobs that have been created. See page 87.

Select the watch job as your printer. Click Set as Default Printer.

Your print job appears in the Printer Jobs window until printing is complete. When you are sure that LPR is working properly, you may want to minimize the LPR window.

Printing from a DOS Session

You can use LPR to print from within a DOS session.

1. Make sure you have at least one printer queue defined. See page 85.
2. Make sure at least one watch job has been created. See page 87.
3. Copy the file you want to print to the watch job name. For example, if you have created a watch job named WATCH1, type the following at the DOS prompt to send TOTALS.TXT to the printer queue:

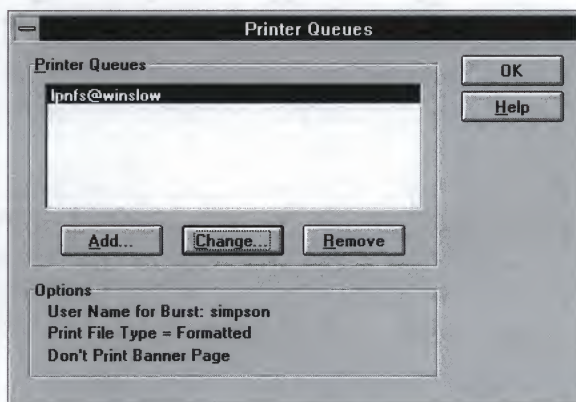
```
COPY RACHEL.TXT WATCH1
```

If you plan to print files from multiple DOS sessions, you may need to create multiple watch job names in order to avoid overwriting one print job with another. The Watch Scan setting on the Timing dialog box, available from the Options menu, controls how frequently jobs are detected and printed.

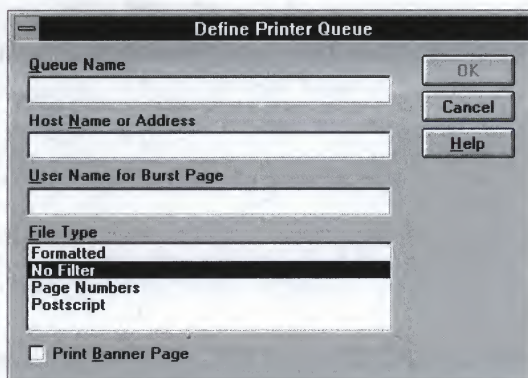
Defining and Configuring a Remote Printer Queue

In order to use LPR, you must have a printer queue defined on the host. This may have been done for you by your system administrator. If not, or if you need to modify an existing queue, follow the steps below:

1. Open the Options menu and click Printer Queues. The Printer Queues dialog box shows all currently configured printers.



2. Click Add to create a new printer queue. You'll see the Define Printer Queue dialog box:



3. Enter appropriate values for the following:

Queue Name	Type in the print queue name on the host offering the print service. This string should be a queue name recognized on the host system. A print queue name is required—if you are not sure of the queue name, check with your system administrator.
Host Name or Address	Type in the IP address or the name of the host offering the print service. A host name or address is required.
User Name for Burst Page	Type in your name or internet identifier. This name is printed whenever you choose the Print Banner option. A user name is required.
File Type	The file type you select must be supported by the print queue you're setting up. Check with your system administrator for the appropriate file type to select. The options are <i>Formatted</i> , <i>No Filter</i> , <i>Page Numbers</i> , and <i>Postscript</i> . The <i>No Filter</i> option will work for almost all printers.
Print Banner Page	Select this option if you want to print a banner page with summary information as part of the print job. (If you're printing directly from LPR rather than from within another Windows application, you can override this setting when you choose Print.) If this option is disabled on the host, it will override your selection here.

Creating a Watch Job

LPR uses a “watch job” to monitor requests for printing from other applications, and notifies LPR when a job is ready to be sent to the printer queue. You must have a watch job to print from a Windows application, or from a DOS session.

Note: You do not need a watch job if you are using direct printing to print an existing file without opening an application. In this case, just click the Print button, open the LPR menu and click Print, or drag the file from the File Manager to the LPR application. ▲

Your system administrator may have created a watch job for you. If not, follow these steps to create one:

1. Be sure you have at least one printer defined and configured for LPR. See page 85 for information on adding a printer queue if you haven’t already done this step.
2. After confirming that you have the correct printer displayed in the Printer Queue, open the Options menu and click Watch.
3. When the Watch dialog box appears, type in the name of a file that you will recognize as a watch job. This file is located by default in the WINDOWS directory. You should accept this location. Click OK.
4. A Connect dialog box appears asking if you want to connect the watch job to a Windows printer. Click Yes.
5. The Printers dialog box appears next. Select the printer driver you want to associate with the watch file. (Do not worry about selecting the appropriate printer port—for example, LPT 2—at this point. You will select the printer port in an upcoming step.) The printer driver should match the characteristics of the host printer. If the appropriate driver is not installed on your machine, you will need to add it. See “Installing a Printer Driver File” on page 80.
6. When you have selected your printer driver, click Connect. In the Connect dialog box, scroll through the Ports list until you find the watch file you have created. (The watch files are often at the bottom of the list.) Select it and click OK.

7. You are now back at the Printers dialog box. Your new watch job and printer driver are displayed in the Installed Printers list. Click Close.
8. The Watch Job dialog box appears. This dialog box displays the watch job file name and location, the file type, the printer driver associated with the watch job, and the Banner check box. Confirm these values by clicking OK.

After you complete these steps, you will see the watch job listed as a printer option in your Windows application.

Monitoring LPR

You can check the status of your LPR print job whether you sent the job from LPR directly or used the Print command in another Windows application. You can also pause a print queue, pause a print job, or remove a print job from the queue.

LPR should already be running—use **[Alt] + [Tab]** to switch to LPR, or if you see the LPR icon on your desktop, double-click it to restore LPR.

Confirm that the Printer Queue displays the name of the printer queue you want to monitor.

- ▲ To pause operation of the currently selected queue, open the LPR menu and click Pause Queue. After you are ready to send print files again, click Resume Queue.

LPR automatically pauses a queue if an error occurs. If you do not have Auto Resume selected, click Resume Queue to submit the print job again.

- ▲ To pause a print job that you have submitted, select a job in the LPR window, open the LPR menu, and click Pause Job. When you are ready to print, make sure that the correct job is highlighted, then click Resume Job.
- ▲ To remove a print job or watch file, select a job in the LPR window, open the LPR menu, and click Remove Job. You can also click the Remove Job button on the toolbar.

A

- Abort
 - IND\$FILE transfer 45
- About box 17-23
 - hardware addresses 20
 - IP addresses 19
 - modules 21
 - network configuration 18
 - network modules 22
 - servers 23
 - system information 18
- Additional IND\$FILE parameters
 - for receives 44
- Advanced Options
 - for IND\$FILE receives 44
- ASCII files
 - FTP transfers 68, 70
 - IND\$FILE transfers 41
 - transfer options 54
- AS/400 Data transfer
 - overview 45
- AS/400 icon 9
- Authentication server, NFS Client 71

B

- BBS
 - phone number iii
- BBS icon 9
- Best Network
 - connecting over 49
 - overriding selected protocol 50
- Binary files
 - FTP transfers 68, 70
 - IND\$FILE transfers 41
 - transfer options 54

C

- Cancel
 - IND\$FILE transfer 45
- CICS
 - host naming considerations 41
- CICS hosts
 - receiving from 43
- Client Access 31
- CMS
 - host naming considerations 41
 - receiving from 43
- Configuration
 - about 18
 - saving 14
 - serial interface 58
- Connect Command File
 - default 57
- Connecting
 - FTP Client 66
 - NFS Client 74-76
 - to host over a network 51
 - to IBM 29
 - to VMS or UNIX 47
 - using Best Network 49
 - using Connection Directory 50
 - using demonstration option 32, 48
 - using MS SNA Server 35
 - using NetWare SAA 37
 - using NS/Router 38
 - using PC Support 38
 - using SLIP or PPP 57
 - using Telnet 33
 - using Telnet Extended 34
 - using the NetWare SAA router 38
- Connection
 - simulating 30, 32, 48
- Connection Directory
 - using 50

- Connection Manager icon 9
- Connection Manager, NFS Client 72
- Control Center icon 10
- Copy button, About box 18
- CR/LF processing
 - for IND\$FILE receives 44

D

- Dataset name
 - for TSO host file 41
- Datasets
 - partition 41, 43
 - sequential 41, 43
- Data transfer
 - AS/400 45
- DEFAULT.CCF 57
 - instructions 60
- Demonstration connections
 - to IBM 30, 32
 - to VMS or UNIX 48
- Direct printing
 - LPR 83
- Documentation 23

E

- Event Viewer icon 12

F

- File
 - settings 14
- File name
 - CMS host files 41
- File transfer
 - IND\$FILE 39
 - methods 68, 70
 - selecting local files 40, 54
 - to AS/400 host 45

- to IBM mainframe host 39
- to VMS or UNIX host 53
- transfer options (IND\$FILE) 41
- transfer options, to VMS or UNIX
 - host 54
- using FTP 68
- WRQ/Reflection 53

File type

- for CMS host files 41

Finger icon 10

FTP Client 65

- connecting to an FTP server 66
- icon 9
- settings files 68
- starting 66
- transferring files 68

FTP Server icon 12

G

- Guided tour 4
 - icon 10

H

- Hardware addresses
 - about 20

Host

- Best Network connection to 49
- connecting to IBM 29
- connecting to VMS or UNIX 47
- IBM mainframe, receiving files from 42
- IBM mainframe, sending files to 40
- network connection to 51
- VMS or UNIX, receiving files from 55
- VMS or UNIX, sending files to 53

Host files

- selecting for FTP transfer 69
- selecting for IND\$FILE receive 43
- selecting to receive from VMS or UNIX
 - host 55

I

- IBM mainframe connections
 - MS SNA Server 35
 - NetWare SAA 37
 - Telnet 33
 - Telnet Extended 34
- Icons
 - AS/400 9
 - BBS-ANSI 9
 - Connection Manager 9
 - Control Center 10
 - Event Viewer 12
 - Finger 10
 - FTP Client 9
 - FTP Server 12
 - Guided Tour for Enterprise 10
 - Guided Tour for TCP 10
 - LPR 10
 - Mainframe Host 9
 - Network Configuration 11
 - Network Statistics 11
 - Network Trace 12
 - NFS Administrator 12
 - NFS Client 9
 - Ping 9
 - Reflection 3270 & AS/400 11
 - Reflection 2 default 10
 - Reflection for the IBM SetCount 11
 - Reflection Network Series 11
 - Reflection 2 SetCount 10
 - Translator 11
 - UNIX 9
 - VMS 9
- If File Exists
 - for FTP receives 70
 - for FTP sends 69
 - for IND\$FILE receives 44
 - for IND\$FILE sends 41

- IND\$FILE 45
 - file transfer 39
- IND\$FILE transfer
 - aborting 45
 - cancelling 45
- Installing a printer driver file 80
- IP addresses
 - about 19
- IP address, remote
 - configuring for SLIP 61

L

- Line printer support
 - LPR 82
- Local files
 - selecting for FTP sends 68
 - selecting for IND\$FILE sends 40
 - selecting to send to VMS or UNIX
 - host 54
- Logging in, NFS Client 71
- Logging out, NFS Client 73
- LPR
 - direct printing 83
 - icon 10
 - monitoring 88
 - printing from DOS 84
 - using 82

M

- Member name
 - TSO host field 41
- Memory usage, about 18
- Microsoft SNA Server 31
- Modules, about 21

N

- NetWare SAA 31, 46
 - reconnecting 38
- NetWare SAA router 31
- Network Configuration
 - about 18
 - icon 11
- Network, connecting over 51
- Network interface
 - adding serial 62
 - configuring serial 58
- Network modules, about 22
- Network Statistics icon 11
- Network Trace icon 12
- NFS Administrator icon 12
- NFS Client
 - authentication server 71
 - connecting to remote file systems 74–76
 - connecting to remote printers 77
 - Connection Manager 72
 - description 71
 - logging in 71
 - logging in at startup 73
 - logging out 73
 - printing 77–82
 - working with remote files 76
- NFS Client icon 9
- NS/Router 4, 31, 46

P

- Partition datasets
 - receiving from 43
 - sending to 41
- PC file information
 - for IND\$FILE receives 44
- PC Support 31, 46
- PDS
 - TSO host file field 41

- Phone numbers
 - Walker Richer & Quinn iii
- Ping icon 9
- PPP 57
 - adding a serial interface 62
- Printer queue
 - LPR 85
- Printing
 - connecting to NFS printers 77
 - from a DOS session using NFS 81
 - installing a printer driver file 80
 - using LPR 82
 - with the NFS Client 77–82
- Printing from a Windows application
 - LPR watch jobs 87
 - using LPR 84
 - using NFS 81
- Printing from DOS
 - using LPR 84
- Product ID 17

R

- Receiving files
 - from IBM mainframe host 42
 - from VMS or UNIX Host 55
 - FTP 69
- Receiving files (IND\$FILE) 42
 - providing PC file information 44
 - specifying a host file 43
 - starting the transfer 45
 - transfer options 43
- Record format
 - for IND\$FILE sends 41
- Reflection
 - running multiple sessions of 14
- Reflection 2
 - About box 17
 - BBS icon 9
 - default icon 10

- SetCount icon 10
 - starting 12
- UNIX icon 9
- VMS icon 9
- Reflection 3270 & AS/400 icon 11
- Reflection configuration
 - saving 14
- Reflection for IBM
 - About box 17
 - AS/400 icon 9
 - Mainframe Host icon 9
 - Reflection 3270 & AS/400 icon 11
 - SetCount icon 11
 - starting 12
- Reflection FTP Client 65–71
 - deleting files 71
 - sending files 68
 - starting 66
- Reflection Network Series
 - icon 11
 - starting 11
- Reflection screen 13
- Reflection Suites
 - guided tour 4
- Reflection technical support 25
- Remote IP address
 - configuring for SLIP 61
- RFC 1647 30
- RNS
 - About Box 17
- Reflection Suites
 - documentation 23

S

- Saving your configuration 14
- Saving your Reflection settings 14
- Screen
 - overview 13

- Selecting local files
 - for IND\$FILE sends 40
- Sending files
 - FTP 68
 - to IBM mainframe host 40
 - to VMS or UNIX host 53
 - transfer options, to VMS or UNIX host 54
- Sending files (IND\$FILE) 40–42
 - selecting local files 40
 - specifying host files 41
 - specifying multiple files 41
 - starting the transfer 42
 - transfer options 41
- Sequential datasets 41
 - receiving from 43
- Serial connections
 - adding interface 62
 - Connect Command Files 57
 - SLIP or PPP 57
- Serial interface
 - adding 62
 - configuring 58
 - remote configuration 63
- Servers, about 23
- Server version, using a 21
- SetCount icon 10, 11
- Settings file
 - opening 16
 - saving 14
- Simulating a connection 30, 32, 48
- SLIP 57
 - adding a serial interface 62
 - configuring remote IP address 61
- SLIPC500.RBS 57
- Specifying a host file
 - for an IND\$FILE receive 43
 - for IND\$FILE sends 41
 - FTP 69
 - on VMS or UNIX host 54, 55

- Starting Reflection
 - FTP Client 66
 - Reflection 2 12
 - Reflection for IBM 12
- Subnet mask 19
- System information
 - about 18

T

- TCP/IP 30
- Technical support 25
 - phone number iii
- Telnet 30
 - over SLIP or PPP 60
- Telnet Extended 30
- TN3270E 30
- Transfer dialog box
 - FTP 66
 - IND\$FILE 39
 - Reflection 2 53
- Transfer method
 - for IND\$FILE receives 43
 - for IND\$FILE sends 41
- Transfer options 54
- Transferring files
 - FTP 68
 - to IBM mainframe host 39
 - to VMS or UNIX host 53
- Translator icon 11
- TSO files
 - host naming considerations 41
- TSO hosts
 - receiving from 43
- TTY window
 - using 61

U

- UNIX icon 9

V

- VMS icon 9

W

- Watch job
 - LPR 87
- Windows printing
 - with LPR 84
- WRQ technical support 25





20-0151-000

Acknowledgements for Earth Photograph: Principal Investigator—Dr. Frederick J. Doyle,
the Apollo Project, and the National Space Science Data Center.